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WORK FOR THE MONTH.

FEBRUARY.

The time has arrived when every farmer and planter should be making his arrangements to secure his supplies of manure to put his spring crops in with, as corn, oats, tobacco, &c., as there is nothing like being beforehand in every thing that belongs to the cultivation of the earth. And as there are but few soils that will yield remunerating crops, unassisted by manure, we enjoin it upon all as a primary duty, to attend forthwith to the procurement of all manures that may be necessary to put in the crops they mean to cultivate the approaching spring. Those who may be accessible to supplies of Guano, will, of course, have recourse to that most powerful of all animal manures; but even such should not be indifferent to the collection of such materials as there may be on their estates capable, by proper management, of being converted into manure; for however active guano may be—however salutary its influence may be in increasing products—and it is potent in both regards—attention should be paid by the culturist who looks to the future improvement of his land, as well as to the present increase of his crops, to provide his soil with such manure also as will lay the groundwork of mould, for the soil which is thus conditioned in its constituent elements, has a greatly increased power of absorbing moisture and food from the air, of equalizing heat, and consequently of protecting the growing crops from the vicissitudes of the seasons.

In connection with the subject of the use of guano, we would seize the occasion to remark, that all wheat-fields manured with guano last fall, should be now sown to clover, in order that when the clover crop some two years hence may be turned in, that the materials for forming mould may be thereby added to the soil, and its improvement be carried on. Now the turning in of a luxuriant crop of clover, may be considered as equal to a dressing of from 12 to 16 tons of ordinary manure, and to return to the soil not only the inorganic substances which it had extracted from it, but the organic food also which it absorbed from the atmosphere in the course of its growth.

With these few remarks, we will proceed to hint at some of the things that can be done on the farm this month.

FENCING.

If you have not already provided a supply of fence stuff to repair or renew your fences, bestir yourselves and do so at once.

WINTER PLOUGHING.

All favorable seasons throughout this month, when the ground may be in a proper condition, stiff clays intended for spring crops should be ploughed up, in order that they may be benefited by the meliorating influence of the frost.

TOBACCO BEDS.

Let these be attended to. On this subject we refer to the admirable essays in this and former volumes upon the culture of tobacco, wherein every light that human intelligence could throw upon the subject has been displayed.

REPAIRS OF FENCES.

Every panel of fence on the farm ought to be overhauled, and such as may need repairs, should be repaired.

ACCUMULATION OF MATERIALS FOR MANURE.

We again call attention to the necessity of collecting and forming every available substance on your place into compost heaps. Guano will make your poorest field bring you a good crop; but unless it be followed by clover, or some other green crop, to be turned in hereafter, guano, with all its virtues, will not leave much behind as staple to the soil.

DEAD ANIMALS.

Should you have the misfortune to lose any of your animals, treat them as we have advised in former numbers. Animal flesh is among the richest of all manures, if its riches be properly taken care of. The analysis of Drs. Sherer and Jones, of Geisen, show it to consist of 54.56 Carbon, 15.72 Nitrogen, 7.95 Hydrogen and 52.83 of Oxygen, Phosphorus and Sulphur. A dead horse, or cow, if properly composted, may in a few weeks be made to manure an acre of ground so as to make it produce 50 bushels of corn, 20 bushels of wheat, or a corresponding quantity of any other crop. How infinitely preferable is it then, to take the trouble to fertilize an acre of ground with such dead animal, than to permit its carcass to poison the air with its noisome

smells. 20 loads of peat, or the same quantity of woods-mould, marsh mud, or any kindred substance, and 1 bushel of plaster, made into compost, with a dead horse, or cow, cut up, will so enrich an acre of ground, as to carry it advantageously through a rotation of crops—to be ploughed in.

BONES.

Save all the bones of the meat consumed on your place, as every 200 pounds dissolved with 100 lbs. of sulphuric acid, diluted with twice the quantity of water, if mixed with 10 bushels of spent ashes, will fertilize an acre of ground sufficiently well to carry it through a four or six years rotation—to be harrowed in.

Attention to such things may be considered a small matter, but attention to such things, though they may be thought *small*, are calculated to produce large results; for an acre thus manured that previously would not bring more than 4 bbls. corn may be made to produce 10 bbls. and continue in good heart for several years. The world itself is an aggregation of small particles, so formed by our Creator, that man should not hold himself above so divine an example.

While upon this branch of the subject, we will remark, that there is scarcely a farm or plantation of any considerable size in the country, whereon there are not soap-suds, pot-liquor and urine enough made annually, to fertilize 100 loads of marsh mud, river mud, woods-mould, and kindred substances, so as to make the whole the most enriching manure, if these substances were, as made, poured over the rough materials named, and a little plaster sprinkled thereon. 100 loads thus made would manure 5 acres of land thoroughly and well, and make it bring as many bushels per acre of any vegetable product as would 300 lbs. of guano per acre—with this difference in favor of the former—it would last longer. To be sure, the hauling and spreading might make it cost more; but then being of domestic production, the fact of its being so ought to commend it to attention.

ASHES.

Save all you make on your place.

HOW TO CONVERT AN OLD FIELD INTO A PASTURE.

If you have an old field that you have turned out because of its unproductive nature, and would like to turn it into a permanent pasture, *by the short cut*, you can do so very readily by adopting this process. Early this spring, or early next September, if that time suits you better, harrow the ground several times, say twice each way, with a heavy harrow; have prepared a mixture *per acre*, of 10 bushels of ashes, 5 bushels of bone dust, 2 bushels of salt, and 1 bushel of plaster, throw the whole into bulk, let it remain 2 or three weeks in bulk. The bone-dust must be moistened before being incorporated with other ingredients. Spread the mixture in the quantities named, over the field. Then sow the following grass seeds in the quantities named, *per acre*, viz:—

- 10 lbs. Timothy seed,
- $\frac{1}{2}$ bushel Kentucky Blue grass seed,
- 1 bushel Orchard grass seed,
- $\frac{1}{2}$ bushel Perennial Rye-grass seed,
- 1 qt. Sweet scented Vernal grass seed.
- $\frac{1}{2}$ bushel Red-top Seed.

Before sowing, mix the whole with four times the bulk of dry sand, or ashes: when sown, lightly harrow the seeds in and roll. Your old field should be enclosed, and neither cut nor grazed the first season.

In the winter succeeding the setting of the grass, when the ground is frozen, spread 25 bushels of lime, or 50 bushels of marl per acre, spread evenly, and you may calculate upon having a good fair permanent pasture for many years, provided you top-dress with a mixture of two bushels of bone-dust and 5 of ashes, per acre, every second year.

SOWING CLOVER SEED.

Sow 12 lbs. of clover seed over every acre of your wheat field, the first suitable occasion that offers this month. Many prefer sowing on the snow.

But if an opportunity for sowing should not present itself during this month, we would defer sowing until the frost was out of the ground, and the ground sufficiently firm not to receive injury from the horses treading. We would then sow, harrow the ground very *lightly*, with a *light harrow*, and then roll; or, at all events, we would roll after sowing the seed. If both processes should be adopted, the effects will be these:—the harrowing will serve as a working to the wheat plants, and destroy weeds, while the rolling will compress the joints of the wheat plants into the soil and encourage tillering. This double process to fields partially winter-killed, will be found to have a salutary effect, by encouraging the joints of the plants to take root and grow.

Here we will repeat the advice and opinion we have before given and expressed. For ourselves we would never sow clover seed without sowing orchard grass seed also. Upon every acre of your wheat field we would sow 12 pounds of clover seed and 2 bushels of orchard grass seed, sowing the clover seed first, by itself, and the orchard grass seed by itself. The latter seed previously to sowing, we would spread upon a floor, *moisten* it, and let it lie twelve hours before sowing it, first mixing it with twice its bulk of sand or ashes. The mode of putting in the seed the same as recommended above.

Clover and orchard grass mixed together, make a much better hay than clover does alone,—produces more hay the first cutting, while the after math is much greater, and the autumn pasture much more luxuriant and enduring, and is exempt from the hovering of cattle. The clover and orchard grass come into bloom about the same time, when it should be cut, for then the objection of *coarseness* does not rest against the orchard grass as hay. Besides, we believe that by combining orchard grass with clover, the latter will, by its rapidity of growth protect the clover plants from the destructive effects of the sun after the wheat shall have been harvested. As an auxiliary in the protection of the clover from exposure to the sun, it is a good practice to sow 2 bushels of salt and 1 of plaster, per acre, as soon as harvest is over, and the wheat removed from the field. The action of the top-dressing is to attract moisture from the atmosphere, and give the plants thereby an impetus in their growth, encourages the roots to descend and derive moisture from below, and while the salt and plaster are manure themselves, they also act as agents to derive it from the air.

GATES.

Substitute each pair of bars leading into your fields by a good light, well hung gate.

WAGONS, CARTS, IMPLEMENTS AND TOOLS.

Examine all these carefully, and have all needful repairs made.

GEARS.

If you desire these to last long, have them oiled once a month.

OIL FOR MACHINERY.

In winter none but the best winter-pressed sperm oil should be used in oiling all kinds of machinery. In summer, the best lard oil will answer. Neglect to oil machinery, and the use of bad oil, occasions more destruction to it than any other cause.

BREEDING SOWS AND STORE HOGS.

Care for these, as we advised last month.

WORKING ANIMALS OF ALL KINDS.

These should receive the same treatment as we laid down last month.

YOUNG STOCK, MILCH COWS, &c.

The same attention and care must be paid to these this month as we advised last.

"For the American Farmer."

THE CANADIAN RECIPROCITY TREATY.

Whoever will cast their eyes upon the map of the country, will discover that the British possessions on this Continent are larger than our own. As a late British writer expresses it, "this huge British territory contains more than four millions of square miles, more than 2,630 millions of acres, and is equal to about one-ninth of the whole terrestrial surface of the Globe; nay more, it owns the supremacy of our own sovereign lady Queen Victoria, and the British possessions in North America, are open to the energy and enterprize of Englishmen."

We are continually assured in Presidential messages, in the reiteration of the Monroe doctrine, that we will permit no interference in the affairs or the political destinies of this Continent, while our policy, especially as manifested in the negotiation of the recent Reciprocity treaty, must and will result in nothing else than in helping to populate and build up this "huge territory," enabling it to pre-empt in less than a quarter of a century, to place an army of a quarter of a million of men in the field, to co-operate with the most powerful naval marine in the world, to decide this question so complacently stated, and so satisfactorily settled by the President. But this is more of a political view of the subject, than I design to take.

What is the agricultural capacity of these Provinces? The two Canadas alone contain it is said, 242,482 square miles, and 155,188,425 acres, of which 7,300,839 are occupied and cultivated. The population is stated by their census of 1852, to be 1,842,265. The number of acres of wheat sown is 1,136,311, yielding in Upper Canada 16 bushels to the acre, and in Lower Canada 9 bushels, and 13 and 3 bushels per capita of the population of each respectively. Some of their further products are 78,000 acres of Rye, 329,755 of Peas, 913,356 acres of Oats, averaging 24 bushels to the acre, and 65,656 acres of Barley, yielding an average of 21 bushels to the acre.

These averages exceed our own productions per acre of the same staples in any State in the Union, and exceed also, our production in comparison to population.

There is but one State as appears by the statistics obtained in connection with our late census, whose wheat crop exceeds nine bushels to each individual, and the average of the best six States is below eight bushels.

In reference to the future of Canada the writer above quoted says:—"In the ten years ending in 1851, the population of Great Britain increased more than 13 per cent, that of the United States more than 35 per cent, and that of Upper Canada

more than 104 per cent. The land even now occupied in Upper Canada, would hold more than eleven times its present population, say 11,000,000 inhabitants to be as densely peopled as England."

Throwing our markets wide open to the agricultural products of this fine region of Country, must greatly stimulate production and rapidly increase their population.

The population that will now move in to swell their numbers is the same, that to a great extent would have moved in to people our own States—a valuable class of husbandmen and farm labourers, that we have yet a plenty of room for. The negotiation of this Treaty will at once give a direction to emigration to Canada, an object the English Government has all along sought, for they have beheld with jealousy, especially recently, the vast accession to our population of grown up men and women drawn from their own laboring classes.

What inducement have these emigrants now to come here? They will have our markets to sell in, and much better ones of their own to buy in.

They will have as cheap and as good lands, and those who become proprietors much cheaper labor; they will have everything but our tariff and our taxes, and even these will be auxiliary to their success, for they will burthen and cripple those who are to be their competitors.

If we call the average production of wheat in Canada but 13 bushels to the acre—it is stated at 16 in Upper Canada, where much the largest breadth is sown—their crop in 1852, must have amounted to 14,672,043 bushels. It is asserted that their crop of 1854, will enable them to export 12 millions of bushels, which is above the average of our own annual exports to all the world of wheat and flour, for the last ten years, and exclusive of the last year and exclusive of 1847, the year of the Irish famine, when our exports rose to twenty-five millions, it is greatly above the average of our annual exports.

This is the formidable rival that our wheat growers have to enter a common market with; the American producer paying 30 per cent duty under a Tariff protecting our manufactures, and which at the same time was professedly, to protect his own home market—still further taxed in being compelled to ship his coastwise freight only in American bottoms, he enters his own grain markets to be undersold by the untaxed colonists of Great Britain.

But wheat is but one of their great staples. In reference to Barley, they have so much the advantage of us in soil, and climate—their climate being particularly adapted to its growth, as its high average of 21 bushels to the acre shows, that they must soon get an entire monopoly in the production of this article. Their new grain markets will stimulate the production of Barley in Lower Canada as much as the production of wheat will be increased in the Upper Province. Their Oat crop averaging 24 bushels to the acre, already amounts to some 23 millions of bushels. And it is only of the Canadas we are now speaking. There are four other Provinces embraced in the Treaty, and though not as favorably situated for agriculture, and more likely to make their contributions from their forests and their mines for most part, still there is one esculent, the potato, which as has been truly said "may be regarded as little less important in our National economy than maize, wheat or rice," that they are likely, particularly Nova Scotia, to send us in large quantities, and may drive the farmers of New England as well as those

of New York, New Jersey, and Pennsylvania, to a great extent, from the Atlantic markets, though the cultivation of this valuable esculent constitutes at present a very profitable source of income.

The Graziers and Stock breeders, will be in like manner interfered with, by the Horses and Cattle that will be brought in, for it is well known they are much cheaper in the Provinces than on this side of the line, and hence horses are often bought, brought in, and shipped to the West Indies, the shipper being entitled in such case to the drawback.

But it is unnecessary to detail further. The proposition is self-evident, that the British Provinces with their cheap and good land, cheap labor—it is not less than 40 or 50 per cent cheaper than it is with us—almost untaxed, for their municipal government, or for any other object, a small revenue duty of some eight per cent on their imports, together with the aid they receive in different ways from the mother country, being sufficient to defray all expenses, with five-sixths of their population engaged in agriculture, it is very evident they can produce cheaper than the American Agriculturist, and that the two are unequal competitors in a common market. Why? Because the American Government draws from the people some thirty or forty millions annually in the shape of duties upon merchandise, a large proportion of which falls upon our agricultural producers, a sum not only sufficient to support an extravagant Government, an Army and Navy, but affording a surplus to buy up annually, or biennially, as the case may be, other States, territories, and countries. Nor, is this the worst feature of this tax, as it bears upon our farmers; it enables the American manufacturer to bid up for labor, to over-bid the farmer; in short to buy up and command the labor of the country. The American farmer is thus taxed twice, first in the duties he pays, and then the much heavier tax he pays in having armed the manufacturer to go into the market and monopolize to a great extent, the labor of the country, by bidding it up so high that the farmer can only use it at all to a limited extent, and then at such exorbitant rates, as to amount to a large per cent upon the net income from his freehold.

But is it true that our farmers under all the disabilities they have labored, with a temporary increase of many thousand consumers, from fresh arrived emigrants, and the armies of men engaged by the inflated and gigantic system of Rail-road enterprises, in which the country has been madly engaged, has not fed the country well and generally cheaply? Great Providential afflictions, as a drought, or great national calamities, as a war, at home or abroad, that affects production, or affects the prices of the markets, temporarily, are contingencies that are inevitable, and must be submitted to. The coincidents of short crops in Europe in 1853, that drew from our market in one year upwards of thirty millions of bushels of wheat, followed by a short crop of our own the present season, when our markets were entirely bare of the old crop, has greatly advanced the price of wheat and flour. But take the average price of wheat for the last half of a century, and it does not exceed \$1.25 a bushel. Take it for the last quarter of a century, and it little if any exceeds one dollar. But upon three occasions during that time, has it been as high as two dollars, and much of the time below one. Only three years ago, in 1851, the

writer of this sold a beautiful crop of wheat in an Atlantic market for 80 cents a bushel. No longer than two years ago, the autumn sales of red wheat in the Baltimore market, were many of them made at 75 and 80 cents. Let me incidentally add, that from high prices such as are now current, it is not always to be inferred that the farmer is the gainer. The aggregate amount of my own sales of wheat the present year, will be below what they have been for the last three years, the addition to the price not making up the deficiency in the crop.

Nobody has ever doubted that our farmers could feed the country, and feed it abundantly, well and cheaply. The late census statistics show the crop of wheat of 1849, amounted to 100,503,889, being a gain in the last ten years of 15,645,378. But the crop of 1849, was a failure in several of the large wheat districts. The crop of Ohio alone, was more than 15 millions of bushels below her crop of 1850, as ascertained by the statistics of the State that year, and crediting this addition alone, to the annual average, would make the increase of wheat keep progress with the increase of population. It is fair at least to state it at 35 per cent. in the last ten years, which is the increase of population. The increase even in the old Atlantic States, so long tilled, so long the nursing mothers of generations of men, was 17 per cent.

So far from supposing their capacity to feed the country doubted, our agriculturists who had put forth their best efforts to improve their husbandry, had ditched, and drained, and limed, and marled, invoked science and liberally purchased guano and other fertilizers, the objects of commercial traffic, to improve their lands, they were prepared to challenge the country for some praise, and to anticipate that their efforts, many of them unselfish and looking as much to the introduction of a good and high order of farming, as to any immediate profits, they had a right to suppose their efforts thus to elevate the character of Agriculture, and to put it on a footing creditable to the Nation, and comparing favorably with the same interest in other countries, would have been promptly recognized and hailed with pleasure, and acknowledged by congratulations "on parts thus well sustained." And least of all were they prepared to see a project started, or at least supported, by New England manufacturers, who had solemnly pledged themselves that we should feed them if they were allowed to clothe us, to attempt to get cheaper bread from the Canadians.

As little were they prepared to see the commercial interest, which they have already helped to "build up," until the President tells us in his message, that but one country on the Globe boasts a larger commercial marine of registered or sea-going vessels, and which he might have added, including our enrolled and licensed commerce (for in tonnage it is about equal to our foreign or registered commerce) is unequalled by any commercial nation of the world—that our merchants thus sustained and thus succeeding, should in their grasping cupidity for more "freights storage and commissions," more rivers to navigate and more seas for fishing, strike this foul and ungenerous blow at Agriculture, barter away our interests to enhance their own, sell our wheat fields for fishing grounds, and more rivers to navigate, was not only unlooked for, but is the "most unkindly cut of all." For this administration is not by any means solely responsible for the conception and consummation of this British treaty.

The power behind the throne was probably, in this case, greater than the throne itself.

But let the different interests understand each other. We have no objection to Canadian farmers, or any other farmers being invoked to feed New England manufacturers, or feed the country, and we have as little objection to our commerce having the free navigation of every sea and river in the world, and securing to themselves from all of these, as far as they can, their success and prosperity. But agriculture claims an equal freedom. It protests in that case, that these manufacturers shall not restrict us to purchasing of them; and that commerce—American bottoms, shall not demand its freights in preference to all other carriers. If other interests do not require tariffs and navigation laws for their protection, neither does Agriculture. Give us Free-Trade, if you say so. It was only on your account—only that we gloried as American Citizens to see our Commerce whiten with its sails every sea—only that we rejoiced to give our ingenious artisans a chance to show their skill, and render the nation independent of all others in the construction of its fabrics, that we consented to this tri-party league, in which each surrendered some privileges, and was protected in others. If American manufacturers have nothing to fear from British manufacturers, if American commerce has nothing to fear from British Commerce, so American Agriculture has nothing to fear from British Agriculture, home or colonial, nothing whatever. But the manufacturing and commercial interest must not suppose that the Agricultural interest will consent to be taxed for their *exclusive benefit and advantage*. The policy of building up by artificial means, by conventional arrangements, these interests in neglect of, or in detriment to the great natural paramount interest of the country, its Agriculture, is more than doubtful as a matter of national policy, even if the good nature or apathy of the Agriculturists themselves could be counted upon, which I venture to say an not.

A MIDDLE STATE FARMER.

For the American Farmer.

AN ESSAY ON THE MANAGEMENT OF PLANT BEDS.

An abundance of plants in the early seasons, is so important, it would seem needless to impress it on the minds of Tobacco growers. Yet the loss sustained by them, in failing to plant in time, is incredible, and it all arises from the want of a little diligence and attention in locating, preparing and nursing their patches.

The fly and late freezings in the Spring, followed by a dry spell, are the greatest obstacles we have to overcome in plant raising. To avoid and surmount these difficulties, I shall mainly direct the attention of all who are interested on this subject.

Select a hill-side, facing the South, in the deepest body of woods you can find, and the best time to make a selection is while the snow is on the ground. Observe where it melts off the first. If the soil is any ways suitable, you may rest assured, it will be the forwardest location you can choose. It is not the strongest land that is the most suitable for plant beds, but the quickest made strong by manuring. Before I leave this part of the subject—to avoid the effects of an excessive drought, I would advise the burning of one branch patch, or a

spot around which the water can be turned, though such situations are slower and I think more liable to be attacked by the fly. I deem it unnecessary to give the details of burning and hoeing and raking, &c., further than to suggest some few observations that may have escaped the inexperienced.

As burning plant beds is very trying to the constitution, I would advise employers never to suffer their hands to burn after sun down. But if they are compelled to steal from the night—take it in morning. The cold night air after being over heated all day is very injurious. Before I adopted this plan I never burnt a plant bed without taking violent cold. Have your ground cleared off, and wood piled the evening before, and the heap well bottomed with kindling wood—so that a hand may go at day-break and fire the heap readily. By adopting this plan you will be able to make a move by light and burn doubly as much in the day. Burn hard if you do not wish to be troubled with grass and weeds.

I have known beds to succeed without burning by applying a large quantity of guano; though this would be a hazardous experiment—for experience has taught us that burning quickens the land, apart from the effect it has of destroying the grass seed.

The ground should be repeatedly chopped over with grubbing and hilling hoes, and the roots neatly raked off—taking the utmost precaution in not turning the sub-soil on top. You may apply almost any quantity of manure provided it is free from grass seed. My plan of saving manure for plant beds, is to litter my stable with tobacco stalks and feed on corn and fodder. Shelter the manure in some old barn, or any where, so that it will not be exposed to the weather.

Guano is an excellent substitute, especially for branch patches or where the land is inclined to be springy. I have known 150 lbs. applied to 500 yards with great success and no other manure with it. Chop in the manure and rake over preparatory to sowing. Having ascertained how many square yards your patch contains, measure out your seed (not by pipes and spoons) but by the handfull.

The day for thin sowing has passed. A half-pint of seed to 500 square yards is not too thick, if your bed is likely to be exposed to the ravages of the fly. Let your seed be well mixed in a half bushel of ashes and distribute them equally over your patch. Tread or roll the ground well, and cover thick with the straightest brush you can find; laying the butts of the brush upon the tails of the preceding layers.

To ascertain whether your plants are killed in the germ—sow about a pipe bole full of seed in the area of a square foot.

Your plant bed is now completed, but your work is not done. The ground may freeze after your plants are up, and if followed by a dry spell (as I have said before) you may certainly calculate on many of them being killed. This you can always discover by the spot indicated above. Should this be the case, sow over immediately. At the first appearance of the fly, you must cover them up with manure sieved as fine as you can get it, not in large quantities when the plants are small, but apply it frequently. The manure for the first two or three applications, ought to be well rotted, but the main thing is to get it fine either by flails or rubbing with the hands. You must be on the alert; any neglect here, your labor will have been in vain.

And here I beg leave to differ with all who would substitute sulphur and train oil, or any other specific that has ever been recommended to drive away insects from a plant bed. There is no remedy but to push your plants on, at the same time keep them hid from the fly. The manuring must be kept up until your plants are out of danger, and you are certain of getting a good stand in the hill.

By no means neglect to weed them. It is a laborious task if there is much grass or white clover.

This can be done by Geese (I have been informed) with less injury to the young plants. If the ground should be dry, keep the brush on until the plants are nearly large enough to draw. E.

GULTIVATION OF THE YELLOW LOCUST.

HARTFORD, N. C., NOV. 25, 1854.

To the Editor of the American Farmer.

GENTLEMEN:—A company in this section of the county desirous of planting and cultivating the locust for timber, have commissioned me to address you, and enquire into the particulars,—

1st.—What kind is used, whether the fruit-bearing or the common shade locust? (It is cultivated on Long Island, but we do not know what variety.)

2d.—How is it planted—what kind of soil does it grow most kindly in—and what season of the year should the seed be deposited?

3d.—How long will it be before it will be proper to cut it?

Please give us the information, either privately or through the journal. Permit us also to request a speedy reply, as we are waiting for information only to commence our operation. Any fee you may see fit to charge for the above information, will be cheerfully liquidated. Yours, &c.

N. C. SKINNER.

Reply by the Editor of the American Farmer.

1st.—The *Robinia pseudacacia*, known in the seed stores as the *Yellow Locust*, is the kind grown for ship timber, fence posts, &c., and is the ordinary shade tree that we meet with everywhere almost in the country. The "fruit bearing" kind, or as the botanists term it, the *Gleditsia triacanthos* or *three thorned locust*, is not the kind grown for timber, but has been propagated to some extent for hedges.

2nd.—This question resolves itself into three questions, and we shall answer them in the order in which they are put.

1st.—Many of the seeds of this variety of the locust tree are imperfect, therefore the best plan is to put the seed in a tub or other tight vessel, and pour water, not boiling, but nearly raised to that point over them. Let them remain 24 hours, and skim off all the floating seeds and throw them away, as they are imperfect and will not vegetate. The seeds which swell and sink to the bottom are perfect and will vegetate. The ground to be selected to sow the seed in, should be a deep and well exposed loam, which should be manured and ploughed, or spaded deeply. After being ploughed or spaded, the ground must be harrowed or raked until perfectly fine, then rolled with a roller, or compressed with the back of a spade or shovel; then lay off drills 4 feet apart, 2 inches deep, mix the seeds with ashes or sand, and drill them in thinly.

After the plants come up, keep them clean of weeds until the plants are ready to set out, which will be in 1 or 2 years.

TRANSPLANTING THE YOUNG TREES.

2d.—When one or two years old, the young trees will be fit for transplantation. Then prepare a deep loamy soil by manuring, deep ploughing, harrowing and rolling. This done the young trees must be planted in rows 10 feet apart, the trees also to stand 10 feet apart; this will give 435 trees to each acre.

If the ground is new, it will not need liming; but if old land, a top-dressing of, say 20 bushels of lime, or 100 bushels of marl per acre would be advisable.

3d. *Soil*.—We have said that they should be planted in a deep loamy soil; we should prefer that kind; though we have seen them grow in every variety of soil.

4th.—*Time of Planting*. As early in the spring as the frost is out of the ground, and it can be properly worked.

5th.—*Time of coming to maturity and value*. For posts, the trees may be cut in 12 or 15 years. If from 20 to 25 years they will be fit for ship timber, and it may be fairly assumed, that each vigorously-grown healthy tree, would, for ship timber be worth \$3. We have heard a larger price named, but as we do not like to encourage over sanguine hopes, we name \$3 as the probable value. The sale for such purposes would almost be unlimited. With railroad companies we believe they would bring as much.

Duration. A forest or grove once set with the yellow locust, would continue for ages, unless carried off by disease, as when cut down for timber, it will renew itself. If necessary the forest might be thickened by simply running a strong plough through the centre of the rows, as from every lacerated root a tree would spring up. For posts or Railroad ties, the forest may be cut over every 15 years: for ship timber it will require 25 years.

The supply of this timber of late years has become very limited.

We do not charge for such information; but take pleasure, as far as our time will permit us, in replying to all inquiries made of us without fee or reward.

BREEDING STOCK.—I seriously tell you, that without judgment, without constant application, without great research into the proper characteristic traits of breed and formation of animals, we shall never come to anything satisfactory: I consider *character* the main link in the whole chain of breeding; for without character you have nothing to guide you. Then comes the *touch*, or *handle*—this is very essential; and the color of the beast is not to be neglected—it must be in character according to their description. Now there are various kinds of beasts which uniformly support a character in themselves; and I may say the same of sheep. I am not disposed to flatter one breed or disparage another, for I really do think they are all useful in their separate localities.—*Lecture before an English Farmers' Club.*

CLOVER.—When clover was first introduced into Germany to fill up the year of naked fallow, in the triennial course of cropping, its effects appeared so extraordinary, that it was pronounced to be the limit of the art of culture; it gave fodder for cattle during the formerly naked year, it gave a better crop in the following year, and it was supposed to choke the weeds which infested the fields of grain.—*Von Thuer.*

REMARKS ON SOME OF THE DISEASES AND INSECTS AFFECTING FRUIT TREES AND VINES. By THADDEUS WILLIAM HARRIS, Professor of Entomology of the Massachusetts Horticultural Society.

SWOLLEN BRANCHES OF THE APPLE TREE.

On the 31st of May, the Hon. M. P. Wilder sent to me some pieces of the limbs of an apple tree, which were singularly enlarged in diameter to the extent of several inches. He found the disease to prevail on the north side of the tree, while the south side was almost entirely free from it. The specimens were carefully examined by Prof. Asa Gray and myself, without insects, their punctures, or their tracks being found therein. One of the branches, measuring 2½ inches in circumference immediately below the swollen part, was enlarged above this spot to four inches in circumference, and the enlarged portion was eleven inches in length. The outer bark seemed perfectly healthy. When sawn transversely, the pith was not found in the centre of the piece, but nearer to one side than the other, where the layers of wood were thicker, and looser in texture. It was also evident that the thicker layers followed a spiral direction around the limb. When the bark was raised, the wood presented a singularly irregular surface, caused by numerous depressions and furrows, which were filled by corresponding elevations of the inner bark. The disease was evidently a diseased formation and irregular deposit of woody matter. It belongs to the province of the vegetable physiologist to explain the cause of this preternatural and diseased formation.

WARTS OR EXCRESCENCES ON PLUM TREES.

These have been attributed by many persons to the punctures or to the presence of insects therein. I have not been able to find either the one or the other in the incipient warts, or in their immediate vicinity. It was only when these excrescences were well grown and were approaching to maturity, that insects were discovered in them, and not always even in this stage. Some of the twigs, containing incipient warts, were enclosed in a tight vessel in May, and were examined in August, when they were entirely free from the vestiges of insects, although the tumors when cut open, presented the porous and cancellated structure peculiar to them when dry. The insects to be found in the warts in the course of the summer are of sundry kinds; such as the grubs of the plum-weevil, borers similar to those that attack peach and cherry trees, and the worm-like caterpillars of minute moths. The last seem to be the most abundant and the most common. Their presence is made known by the castings or grain-like fragments thrown out of their burrows upon the surface of the warts. These tumors also afford nourishment to certain vegetable parasites, the little black grains, half immersed in the surface, to which, when mature, they give a deep black color. These little grains are fungi, which have been described under the name of *Spharia morbosus*. But neither to them, nor to the various insects before named, is the origin of the warts to be ascribed. The incipient warts can be detected, before the outer bark is ruptured, by the swollen appearance and spongy feeling of the surface. They seem to be the result of diseased action in the inner bark and new wood, while these parts are in a state of rapid formation. Upon examination, the cells of the tissues are found to be surcharged with fluid,

and distorted in shape and arrangement. The plum tree has been called a gross feeder. It may imbibe fluids by its roots faster than it can exhale the superfluous moisture from its leaves; or the functions of the latter may be checked by such sudden changes in temperature and in the hygrometric state of the atmosphere as are common in the spring. In either case, there would be likely to ensue an accumulation of fluid in the branches, and particularly in the tender tissues of the new wood, where warts are most commonly developed.

From experiments made upon my own trees, I have reason to believe that the growth of these tumors may, in great measure, be prevented by severe root-pruning; stimulating the bark in the spring, or before the buds expand, by washing it with soft-soap, and by cutting off the warts as soon as formed, and applying salt or brine to the wounds.

CURL OF THE LEAVES OF THE PEACH TREE.

This affection, to which the tree is subject during the month of May, and by which it often loses all its first leaves, has been commonly attributed to the punctures of insects, such as *aphides* and the *thrips*. It is, however, very doubtful whether these insects are the real cause of that diseased change in the texture and form of the leaf which is called the curl, because the insects in question are rarely seen on the affected leaves, and never in such numbers as sufficiently to account for the extensive injury sustained. The surface of these leaves is swollen into irregular and crisp tumors, often of a reddish color, and of a spongy texture, formed of thickened and succulent cellular tissue. These tumefactions present some analogy to the warts of the plum tree, and may have a similar origin. The affection has often been observed to follow a cold storm in May, whether connected therewith or not. If sudden cold and moisture have a tendency to check evaporation from the leaves, fluids will accumulate therein, and may thus bring about the changes by which they become blasted. It is confidently stated that soaping the limbs of the trees early in spring, or washing them with a solution of sulphur and potash, will prevent them from suffering from the curl. Peach trees on plum stocks seem to be nearly exempt from this affection, perhaps because the supply of nourishment from the roots and the exhalation from the leaves are more nearly balanced in them; for the plum stock makes fewer or smaller roots than the peach on its own stock.

THE YELLOWS.

For the first time in eleven years the symptoms of this disease have appeared in my garden. It is confined to two branches on the north side of one peach tree, the fruit on which is becoming red some three or four weeks too soon, while a few wiry shoots, clothed with diminutive and pale leaves, have sprouted upon these branches. Neither borers nor the *Tomicus luminaris* have been discovered in the tree; and the cause of the disease remains as much a mystery to me as to other cultivators. I propose cutting off the diseased branches, and dressing the soil around the tree with ashes and urine, as an experiment towards checking the further development of the disease. In former years peach trees have rarely suffered from the yellows in this neighborhood, where now many trees are affected with it. Has the severe drought of the present season had any influence in producing the disease?

INSECTS OF THE APPLE TREE.

My remarks will necessarily be confined to a very

few of the numerous insects infesting fruit trees and vines; there being nothing new or particularly interesting to be stated concerning the greater part of them.

Canker-worms.—There are some parts of the country in which these insects have never appeared: in other parts their visitations occur several years in succession, are then suspended for an uncertain term of years, after which they recur again as before. Thus, in the vicinity of Boston, these insects prevailed from 1832 to 1840, increasing yearly in numbers till the last date, after which they disappeared almost entirely till 1847, when they began to attract attention, and have become more numerous every year till the present time. Their ravage during the past summer, in Cambridge and in some of the adjacent towns, have been very serious, but have not yet reached the height they attained in 1839 and 1840. Canker-worms are generally found upon the buds and leaves of the trees before or about the middle of May, and disappear before or about the middle of June, their depredations lasting nearly or quite four weeks. The parent insects, consisting of winged males and wingless females, ascend from their burrows in the ground in the latter part of October, and during the month of November, and again in the spring from the middle of March to about the tenth of April. Their spring rising is sometimes retarded and prolonged a week or more by the backwardness of the season. In mild winters a few of the insects may ascend at various times between the periods for the ordinary autumnal and spring risings. It is during these same periods that our trees require to be protected against the ascent of the females. Soft tar, seasonably applied around the trunks of the trees, and frequently renewed, is the remedy which has been longest and most relied upon for this purpose. Various other expedients have been tried to prevent the insects from ascending the trees and depositing their eggs upon the branches. Those most worthy of confidence are circular leaden troughs, containing cheap oil or gas tar, secured in a horizontal position around the trunks of the trees, and the glass rings, lately invented by Mr. George Everett, of Roxbury, the efficacy of which, however, has not yet been sufficiently tested. Canker-worms are very injurious to cherry and plum trees, and to elms and maples, all of which will have to be secured from their anticipated depredations, in the same way as apple trees.

Palmer-worms.—In the second edition of Dr. Deane's "New England Farmer and Geographical Dictionary," published in 1797, there will be found the following account, under the article *Insect*:

"The *Palmer-worm*, a wanderer, as its name signifies, is a small worm, about half an inch in length, with many legs, and extremely nimble. It appears at different times in different parts of the country. I have seen them only on apple trees and oak trees, in any great abundance. They give the trees the same appearance that the canker-worm does.—They appeared in the county of Cumberland (Maine) in the year 1791, about the middle of June, eating off the covering of the leaves on both sides, and leaving the membranous part entire. The following year there were none to be seen, and I have not known them in any place two years in succession. The seeds of them may be constant, wanting only a particular state of the weather to produce them. The spring which preceded their appearance had

been remarkably dry, both in April and May. The history of this insect is so little known, that I will not undertake to say how they may be successfully opposed. I made smokes under the fruit trees, without any apparent effect. As they let themselves down by threads, they may be thinned by shaking the trees and striking off the threads. Their ravages had not any lasting effects, for the orchards, that had been visited by them, bore plentifully the following year."

During the month of June, 1853, a small wormy or naked caterpillar, whose history accords, in every particular, with the foregoing account, was observed in great numbers on apple, cherry, and plum trees, and on oaks, throughout the greater part of New England and in the valley of the Hudson in New York. In some places, orchards suffered from these insects as much as from the ravages of canker-worms: and not only the leaves, but also the fruit was injured or destroyed by them. By many persons they were mistaken for canker-worms. The latter disappeared here about the tenth of June, at which time the palmer-worms were just beginning their depredations. These worms differed from the former in having sixteen legs, in being much more active in their motions, and in creeping without looping or arching up their backs at every step.—They were also smaller and differently colored. Towards the end of June, they came to their growth and left the trees, their disappearance, in many places, coinciding with the heavy showers which fell about the same date. Some of the insects which were secured, covered themselves with little transparent silken webs or cocoons, in which they took the chrysalis form immediately, and came forth as moths between the 8th and 25th of July. About the same time they were seen in the moth state in orchards, and in great numbers among the grass under fruit and forest trees. They soon entirely disappeared, nor have they been observed under any form since that time. In an article printed in the *Cambridge Chronicle*, for July 23d, 1853, I gave to this insect the scientific name of *Rhinostia pometella*, the little Rhinostia or snout-moth of the orchard, with a scientific description of it in all its stages. That article, and another in the *Journal of the New York State Agricultural Society*, for October, 1853, and also Dr. Fitch's account in the same Journal for September, 1853, may be consulted for further particulars.

The New York Weevil.—In some of the Western States, apple trees, and occasionally pear, plum, and cherry trees, have been injured by a large weevil, specimens of which, taken from these trees in Michigan and Wisconsin, have been sent to me. This is the biggest weevil known in the United States, measuring half an inch or more in length. It is of a grey color, striped with white, and dotted with black spots on the back. The celebrated naturalist and voyager, John Reinhold Forster, first described it in 1771, under the name of *Curculio Novboracensis*, the New York weevil. It belongs to the modern genus *Ithyserus*, and has also been described by Mr. Kirby under the name of *Pachyrhynchus Schonherri*. According to Mr. A. H. Hanford, of Waukesha, Wisconsin, and Mr. T. E. Wetmore, of North Cannon, Michigan, this weevil attacks the buds and young shoots of the trees, gnawing them to the very pith, so that they break off, or wither and die. Mr. Wetmore informs me that their numbers are greater this year than heretofore, and apprehends great injury from them should the

continue to increase. They are found on the trees in May and June; appear to be active through the night, drop off by day when the trees are suddenly jarred. I have taken them in June and July on oaks and maples, but never met with them on fruit trees. Though not a very abundant species in Massachusetts, it is by no means rare, and has a wide range through the country, being found in most of the New England, Middle, and Western States, in Canada, and in Newfoundland. There is an account and figure of it in the *Horticulturist* for August, 1853, page 386. The *Journal of the New York State Agricultural Society* for September, 1853, may also be consulted for notices of it by Dr. Fitch and myself.

Apate Bicaudatus.—This is the scientific name given by Mr. Say to a little beetle, whose injurious habits have lately been observed in Michigan and Wisconsin. Professor S. P. Lathrop, of Wisconsin University, and Mr. T. E. Wetmore have sent specimens to me, with accounts of the depredations of the insects, which are found burrowing in the pith of the young branches of the apple tree, during the spring. The branches above the seat of attack soon die. These beetles are from one-quarter to more than three-tenths of an inch long, cylindrical, dark chestnut brown, roughened like a grater, on the fore part of the thorax, with short spines pointing backwards, and armed, in the males, with an incurved spine, near the tip of each wing-cover. Besides those sent to me from Michigan and Wisconsin, I have specimens from Ohio, Pennsylvania, and North Carolina; but have not met with any in New England.

The Oak-pruner (*Stenocorus putator*) occasionally attacks the small branches of the apple tree; and the blight beetle, *Scolytus*, or *Tomicus Pyri*, whose perforations blast and kill the branches of the pear tree, has also been found equally injurious to those of the apple tree.

Dr. William Le Baron, of Geneva, Illinois, has contributed some interesting observations on the *Bark-Lice*, or scale insects of the apple tree, to the *Prairie Farmer* for June, 1854. He finds that there is only one annual brood of these insects, that they are hatched in May, and that the females often produce from seventy to one hundred eggs. He thinks that remedies for the destruction of the insects should be applied soon after the hatching season.

PEAR TREE INSECTS.

The most injurious to this tree are the *Slug-worms*, which destroy the leaves, the *Scolytus* or *Tomicus*, referred to in a preceding paragraph, and borers, which make their attacks on the stocks of dwarf trees that are grafted upon the quince. Pear trees likewise suffer occasionally from *bark-lice*. Within a few years, a new and probably introduced insect has made its appearance in great numbers on pear trees in the western parts of Connecticut and Massachusetts, particularly in the valley of the Housatonic, and in the adjacent counties Dutchess and Columbia in New York. This is

The *Psylla*, or jumping louse, which is probably identical with the same species that infests the pear tree in Europe. Some account of it has been given in the second edition of my "Treatise;" but the history is confessedly incomplete, and further particulars have been hoped for from Mr. T. Glover, of Fishkill Landing, whose opportunities for observing the habits of the insect are greater than mine have been. In some of its forms it is found on pear

trees from May to October; and probably two or more broods are produced every year. These little insects live by suction, and obtain their food by puncturing the bark of the young shoots, mostly in the vicinity of the buds. They defile the shoots with the fluid which they discharge in large quantities, and which soon forms a blackish crust on the bark. The best remedy that occurs to me is a wash of strong soap suds and sulphur, applied with a brush to the branches in the spring, before the buds expand. A solution of whale-oil soap, thrown upon the trees, will kill the insects, but will have to be repeated at intervals through the summer.

PLUM TREE INSECTS.

The *Plum Weevil*, *Curculio*, or *Conotrachelus Nephur*, continues to baffle all attempts to exterminate it. Cherries, apples, pears and peaches, and even the succulent warts of the plum tree provide for it abundant resources, in default of plums, its more appropriate food. We may save a crop of plums by covering the trees with fine netting, or perhaps by coating the fruit with whitewash; but the other fruits above named will suffer all the more for our pains, and will furnish a numerous brood of depredators for the following year. Nothing short of killing the insects, in some of their forms, will ever prove an effectual remedy.

The *Slug-worm*, *Tenthredo*, or *Selandria* (*Blennocampa*) *Cerasi*, which destroys the leaves of the cherry and of the pear, is also injurious to those of the plum. It is easily killed by dusting ashes or lime upon it, or by throwing upon the leaves a solution of whale-oil soap.

CHERRY TREE INSECTS.

Those which attack the leaves are chiefly *canker-worms* and *slug-worms*, already referred to, and *rose bugs*, which in some seasons are very injurious to them. The latter, as well as *May-bugs* or *Melolontha*, may be gathered by hand on small trees, or may be beaten off with poles and caught in sheets spread beneath the trees. The best time for doing this is in the evening or very early in the morning, when the insects are sluggish, and readily fall if disturbed. A large proportion of the fruit is spoiled every year by the grubs of the *plum-weevil*. The incautious eater doubtless does something towards checking the increase of the insects; but a remedy less repugnant to good taste remains to be discovered.

PEACH TREE INSECTS.

The *Tomicus Linnæaris*, which lives under the bark of diseased peach trees, and has been supposed by Miss Morris to be the cause of the yellows, has not appeared in my own trees, nor do I hear of its being found in others in this vicinity. Miss Morris' communication upon it may be seen in *Downing's Horticulturist*, vol. iv., page 502.

The *Peach Tree Borer*, (*Egeria exitiosa*), an entirely different insect from the apple tree borer, and operating in a different manner, namely, between the bark and the wood; is more injurious to this tree than any other insect. Great care is necessary to prevent the tree from being fatally girdled at the root by these pernicious borers.—Frequent application of urine and ashes, and of hot soap-suds, around the trunk, seem to have a good effect, being not only offensive to the fly when about to deposit her eggs, but also destructive to the young borers. After any lurking borers and the earth adjacent to the trunk have been carefully removed, a covering

of strong paper around the base of the tree, tied above with a string, and secured at the bottom with a bed of mortar, has proved an effectual preventive against the attacks of the insects. I believe that peach trees on plum stocks are never injured by these borers.

INSECTS OF THE GRAPE VINE.

The vine is subject to the attacks of a very great variety of insects, differing also from each other in their operations, and in the amount of injury done by them. Most of them have been noticed in my "Treatise" on injurious insects; but there are others claiming the attention of the cultivator and of the naturalist.

Grape Vine Borer.—The roots of cultivated grape vines in the Southern States have been observed, by Dr. F. J. Kron, of Albemarle, North Carolina, to be so much injured by borers as to prevent the ripening of the fruit, and finally to cause the decay and death of the vines. The insects do not spare even the native varieties, all of which, except only the *scuppernon* or *muscadine*, are found to be attacked by them. Taking advantage of the foregoing exemption, Dr. Kron has been successfully engraving and cultivating the best foreign and native grapes on stocks of the wild muscadine, probably the true *vitis vulpina* of Linnaeus, and of Sir J. E. Smith, in Abbot's "Insects of Georgia," and identical with the *Vitis rotundifolia* of Michaux and of Elliott. He has also favored me with samples of injured vine-roots, and specimens of the insects in all their stages, together with an account of his observations and experiments upon them. This account, and a scientific description of the insects, written by me at the request of Dr. Kron, have been published in the *Raleigh Register* for the 5th of April, 1854. The insects belong to the genus *Egeria*, and are allied to the borers of the peach tree, and to those that destroy the roots of pumpkin and squash vines. In their winged form they strikingly resemble certain wasps called *Polistes*; hence I have given to this species the name of *Egeria polistiformis*. According to Dr. Kron, they are found about the vines and on the wing from the middle of June to the middle of September, during which time they couple and lay their eggs. These winged insects are of a dark brown color, more or less tinged with a tawny orange on the sides, and banded with bright yellow upon the edge of the second ring of the hind-body. The thorax and shoulder-covers, and the fourth ring are more faintly edged with yellow or with tawny orange. The feelers, antennæ beneath, and legs are also orange-colored. The fore-wings are dusky; the hind-wings transparent, but veined and edged with black. The female has a little orange-colored tuft on each side of the tail, and the males have two tufts on each side, the middle pair longer than the others. The males are more numerous, more active, and smaller than the females; they measure from five to six-tenths of an inch in length, and their wings expand from one inch to one inch and three-twentieths. The body of the female varies from six to nine-tenths of an inch in length, and her wings expand from one inch to one inch and a half. These insects lay their eggs near the roots of the vines, and the whitish grubs, hatched therefrom, of various sizes, will be found boring into the bark and wood of the roots during the summer. When fully grown, these grubs measure from one inch to one inch and three-quarters in length. They undergo their

transformations in oblong oval pods, formed of a gummy kind of silk, covered with fragments of wood, bark, and dirt, which will be found within or adjacent to the injured roots. The insects take the chrysalis form at various times during the summer. The rings of the chrysalis are surrounded with minute teeth, which assist the insect in coming forth from its pod or cocoon when about to be changed to a moth.

Eight-spotted Sphinx, or *Allypia octomaculata*.—There are two insects, occasionally found on the grape vine, which in their caterpillar state closely resemble each other in form, size, color, and habits. One of these is the beautiful *Eudryas*, described in my "Treatise," the other is the *Sphinx* or *Allypia*, above named. This *Allypia*, though occasionally so numerous as to be quite hurtful to the vine in some parts of the United States, is very rare in New England. I never saw it in Massachusetts until the summer of 1853, when a few specimens were discovered on my grape vines; and during the past summer they have appeared in greater numbers on the same vines. At first they were mistaken for the caterpillars of the *Eudryas*, from which, however, they are to be distinguished by having a conspicuous white spot on each side of the hinder part of the body. These caterpillars are white, passing into blue, transversely banded with narrow black lines, with a broader orange colored band, dotted with black, on the middle of each ring. The head and feet are also orange, dotted with black. The black dots on the body produce a few short whitish hairs. They were found eating the leaves of the vine in the latter part of June and beginning of July. Full grown specimens measured one inch and a quarter, or more, in length. Before the 16th of July, they left the vines, and concealed themselves in a loose web upon the surface of the ground, and soon took the chrysalis form. One of them was transformed to a moth on the 10th of August; others remained in the chrysalis state through the winter, and came forth winged in May and June. The winged insects are black, with two large yellow spots on each of the fore wings, and two white ones on the hind wings. Their shanks are clothed with orange-colored hairs. Their wings expand from one inch to one inch and a half. Abbot has figured this insect in his "Insects of Georgia;" but has colored the caterpillar incorrectly.

Grape-vine Flea-beetle or *Haltica*.—The depredations of this insect upon the grape vine seem first to have been observed in the year 1813, by the late Judge Darling, in Connecticut, and by Mr. David Thomas, in New York. An account of them by the latter gentleman was published in 1834, in the 26th volume of Silliman's *American Journal of Science*. The beetles were found to destroy the fruit buds in the spring, and their young, in the form of chesnut-colored grubs, destroyed the leaves in summer. These grubs have never been fully described. In a recent excursion to New Hampshire, I was struck by the condition of the leaves of the black alders (*Alnus serrulata*), which through a long extent of country were destroyed in the same way as the leaves of fruit trees are by canker-worms. Upon examination, the authors of all this mischief were found to be certain dark colored grubs, great numbers of which were still remaining on the leaves on the second of August, while others had already completed their transformations, and had come forth in the beetle form. The beetles were identical with the above-named depredators of the grape

vine, and were feeding upon the few green leaves still remaining on the alders. The grubs when fully grown, measured about half an inch in length. They were of a livid brown color above, and paler beneath, with a black head, black feet, and a double row of minute acuminate black warts, each producing a very short hair, on every ring. The body was nearly cylindrical, the feet were six in number situated beneath the fore part of the body; and there was a little fleshy proleg beneath the last segment. It may be added that the beetles were rather more than three-twentieths of an inch in length, of a brilliant greenish blue color above, and that they leaped with the agility of fleas. The discovery of these insects in such immense numbers on the alder, and the extensive ravages committed by them on this shrub, seem to indicate that the natural food of this species is obtained from the alder, rather than from the vine; and that its resorting occasionally to the latter, may be owing to the want of the former, or to the extraordinary multiplication of the insects, in certain seasons, in the vicinity of the grape vine.

Cambridge, Mass., 1854.

LIME—ITS ACTION, &c.

There is no mineral, perhaps, the application of which is more beneficial to a generality of soils than lime, yet none about which practical farmers have at all times so widely differed. Some regard it a sovereign panacea for all the ills the soil is heir to, while others contend as the result of repeated experiment, that on thin soils, at least, it is utterly worthless. Now, while it is borne in mind that this mineral, in one form or another, is constantly present in every plant the farmer grows, and is, in the aggregate, far more abundant in the vegetable kingdom, than any other—that in barren soils, it is always in small, and in those of known productiveness, always in large proportion, it would appear strange that its application should not, in all cases, prove highly beneficial; yet certain it is, that it does not always exhibit its peculiar good effects, even on those soils, which Mr. Ruffin, of this State, would call "acid," and to which, according to his theory, it would be most beneficial. The writer of this proposes briefly to examine Mr. R.'s views on the subject of lime, not, however, with any intention of disparaging his theory, farther than may be necessary to arrive at correct conclusions; for if there is any man who deserves the everlasting gratitude of his countrymen every where, and especially in "Tide Water Virginia," because of his many invaluable labors in the cause of agriculture, it is the modest author of the "Essay on Calcareous Manures."

Mr. R.'s theory I understand to be this: A growth of such acid plants as the "sheep sorrel"—"broom grass"—and "old field pine," is indicative, he infers, of acid soil. The soil he supposes to be poisoned by an acid, and until this poisonous acid is neutralized by the antacid, lime—acid plants only will flourish on it, and such a soil, he assures us, cannot be durably and profitably improved by putrescent manures, without previously making it calcareous." But by liming, or calxing as he prefers to call it, all this supposed free acid in the soil is neutralized, and all its acid vegetation, for want of the proper food, is thereby exterminated.

Now this test (*diagnosis*, as a medical man would say) of the disease is certainly very simple, and the treatment equally so. But unfortunately for a large

section of "middle" Virginia, at least, where these acid plants flourish in their greatest luxuriance and perfection—owing to the cost of lime and its transportation, calxing, to the extent he proposes, can never, in all probability, be practised, therefore, according to his doctrine, such soils can never be "durably and profitably improved," and for this reason the sooner their owners abandon them to their fates the better. But being myself unwilling to admit the correctness of his premises, I must be excused for not admitting his conclusions. Mr. R., if I mistake not, reasons rather from inferences, than facts. If he sees acid plants growing on a soil he immediately concludes the soil itself is acid. Why? Because he has ascertained, by chemical tests, that the peculiar acid of the plant is in the soil? No; he does not stop to examine the soil, though, indeed, analysis would detect the acid, if it was really present; but he infers its presence from the fact that the plant is acid. Again, he examines a soil which he supposes to be acid, and he finds no trace of "carbonate of lime" in it, he infers, therefore, from the entire absence of this salt, (though there may be an abundance of the alkali, ("lime,") which is a better antacid than the carbonate of lime,) that the acid is certainly in excess in the soil, and it needs carbonate of lime to neutralize it. Now it is manifestly very unsafe to reason from such premises. Every body knows that a sour, sweet and bitter plant will often grow equally well, on the same soil, and side by side, yet few would believe, in the absence of any fact to prove it, that all these three ingredients existed in the soil at the same time. Corn at a certain stage of its growth contains in the stalk a large amount of grape sugar. Does any one believe that the soil actually contained all this sugar, and that it was abstracted by the roots of the corn from the soil? Or is it supposable that all the citric acid of the lemon was taken directly from the soil? If so, the soil itself must have had a decidedly sour taste! It will not do to infer any thing as to the composition of a soil from either the presence or absence of any of those vegetable acids we meet with every day in plants—for that every living plant has a perfect respiration, circulation, digestion and nutrition peculiar to its own organism, and can by its own vital energies manufacture, so to speak, from the various binary compounds present in most soils and from the carbonic acid ever present in the atmosphere, any ternary compound natural to it, such as grape sugar, oxalic acid, &c. is just as demonstrable a proposition in vegetable, as any in animal physiology. Mr. Ruffin, with characteristic candor, admits that the "wood sorrel" (which is of the same family with the "sheep sorrel" (*rumez*) and contains precisely the same acid) prefers a rich and calcareous soil, and will even grow on one calcareous to excess," and further, that "it would seem the 'wood sorrel' gets its acid from the atmosphere," and yet strange to say, he is unwilling to admit that the sheep sorrel gets its acid in the same way.

Professor Johnston gives a very plausible explanation of the matter. It is in substance this: The leaves of all plants (as all admit) are constantly in the day time absorbing from the atmosphere a certain gas, called "carbonic acid," which differs from "oxalic acid," only in this, that it contains a little more oxygen than the latter. Well, when this carbonic acid gets into the leaf it undergoes a decomposition (as all admit) and in most plants the carbon and oxygen which had been in combination in

the form of "carbonic acid," are set free—the oxygen as to the most part is expired or breathed out by the plant—while the carbon mixes with the sap which has come from the roots up to the leaf and thence circulates over the whole plant—to deposit and form its woody fibre. Now, if when this "carbonic acid" first reaches the leaf of the sorrel, it is made to part with a certain portion only of its oxygen, oxalic acid is formed—unites with the sap and then disseminates itself through the whole plant. This, by way of explanation.

But that there is not one particle of "oxalic acid" present in the soil where the sheep sorrel grows, admits of but little doubt, and that its growth is in no way favored by the presence of that acid has been demonstrated times and again. If kept clear of other more hardy plants it will grow quite as well, if not better, on a calcareous soil, than on any other. Indeed, a friend of mine, who is a sort of "amateur farmer," assures me that after liming a piece of land, the sorrel came up thick, where it had never been seen before, and though he does not believe the lime brought it on the land, as many honestly do, that guano brought the "joint worm," he knows the lime did not in the least prevent it. I have myself repeatedly seen luxuriant sorrel after liming, and have even seen a flourishing crop on an ash pile where certainly there were antacids enough to correct any reasonable amount of acidity. Still it is not to be doubted that liming does, after so long a time, cause the sorrel to disappear, and white clover to take its place, and so if ashes be spread on a yard infested with ribwort it will cause that plant to disappear and *greensward* to come in its place. But let it not be inferred from this that the soil in either case was acid, but rather that it was not of the proper composition to grow clover and grass; as soon, however, as it was made so, by lime and ashes, the sorrel and ribwort being less hardy plants than the other two, were crowded out.

Neither can I believe, for a moment, that an acid or any other poisonous substance, has any thing to do with the growth of the old field pine, for it is not until the soil has been completely exhausted of all that can generate an acid,* and can no longer sustain any other vegetation, that this beautiful evergreen makes its appearance; and in this beneficent arrangement do we see strikingly manifested the wisdom of the Divine Architect, who mercifully deposited and ever preserves in these soils the germ of their own renovation, so that when from sheer exhaustion, they can no longer yield to the diligent husbandman their fruit in due season, and are altogether too poor to sustain any of the artificial grasses, they may cover, as it were, the shame of their nakedness with their own perennial pine—nature's perpetual green manure—and thus unaided and without any labor or expense, on the part of the farmer, speedily and thoroughly accomplish the work of self-renovation.

Amongst the best soils in "middle Virginia" originally, and some of the finest tobacco soils in the State now are many of those at this time heavily

*It is an admitted fact that the circumstances, which most favor the generation of acids in a soil, are an abundance of vegetable matter saturated with water, by which a slow decomposition may take place. Now it is manifest that in a sandy soil, long subjected to hard cropping and grazing, there can be present but little vegetable matter, and consequently but little acid can be formed; yet it is on just such worn out old field, and on the highest, driest and poorest parts of it, that the thickest set of pines is seen, while on the low, swampy places, where acids, if any where, are to be found, the pine is never to be seen, except as a sickly, stunted growth.

timbered with the old field pine. These lands, which were cleared by our industrious ancestors half a century ago, perhaps, and worked by them till worn out, and worthless, are now after a lapse of, probably, no more than thirty years, quite as good as they ever were. These pines in their early growth required but little nutriment other than moisture and carbonic acid, the one to supply sap and the other carbon. The former being plentifully present in the soil, and the latter in the atmosphere, and the soil having been left in an open, friable condition by previous and recent tillage, their growth consequently was rapid, and their appropriating and improving powers increased, *pari passu*, with their growth.

It is highly probable that most of the soils of middle Virginia, would be benefited by lime, which is, doubtless, greatly to be preferred for most of them, to ordinary marls, and could it be got tolerably free from magnesia and silica, and at a reasonable cost, say eight or ten cents per bushel, many would be induced to venture an outlay. But at its present cost, of twenty to twenty-five cents, its use even in composts, is of doubtful propriety. Most of our soils having much black sand, contain a good deal of lime in the form of an insoluble "silicate of lime," which slowly decomposes in the soil under atmospheric influences. And the writer has never examined any soil, however poor, that did not contain at least a trace of soluble lime. Quicklime on all these lands, however, would doubtless be very beneficial, as they have not at any time a sufficiency of available lime to produce the necessary decomposition in the soil. Probably the most important offices performed in the soil by lime are its decomposition of inert vegetable and mineral matters, and its conversion of insoluble humus into soluble humates by first forming "humic acid," which in turn unites with the various alkalies present in the soil, and forms soluble salts, such as the "humates" of lime, ammonia, potassa, &c.

Under all the circumstances it would be vain to expect to improve, in any short time, many of these lands. Ours is strictly a tobacco region, and we naturally look more to profit than improvement; still, under a proper system of cultivation and rotation, and by a judicious management and application of manures, much may be accomplished in the end, and our farming account in the long run be made to foot up quite as well as the average of those in far more highly favored sections. Let every farmer in middle Virginia make all the manure he can and take care not to apply it too coarse and at the same time let him see that it is not allowed to get too hot by heaping. Let every negro quarter have a close pen at hand in which to collect all the wood ashes of the farm, every bushel of which is more than equivalent to an equal measure of caustic lime—plough his land deeply and thoroughly—encourage grass by sowing a plenty of seed, and be certain to roll well close after sowing—graze moderately with few cattle and those the best, and rest assured he will have the satisfaction of seeing, in a few years, his farm both durably and profitably improved.

P. B. PENDLETON.

Louisa County, Va.

To PRESERVE MEADOWS, in their productiveness, it is necessary to harrow them every second autumn—apply top dressing, and roll them well. The trouble and expense will be richly repaid in increase of crop.

CLASSIFICATION OF MANURES.

Of the Manures from Domestic Animals, and their Preservation.

By JOHN P. NORTON.

The manure of various domestic animals, is, in this country, most commonly employed as a fertilizer, all other manures being used in comparatively small quantities; and yet these are seldom preserved and applied as carefully as they might or ought to be.

The principal varieties are those of the ox, the cow, the hog, the horse, and the sheep. Of these that of the horse is most valuable in its fresh state; it contains much nitrogen; but is very liable to lose by fermentation. That of the hog comes next. That of the cow is placed at the bottom of the list. This is because the enriching substances of her food go principally to the formation of milk, the manure being thereby rendered poorer.

The manure of all these animals is far richer than the food given them, because it contains much more nitrogen. This is for the reason that a large part of the carbon and oxygen of the food are consumed in the lungs and blood generally, for the purpose of keeping up the heat of the body. They are given off from the lungs, and also by perspiration and evaporation through the pores of the skin, in the forms of carbonic acid and water.

From animals fed upon rich food, the manure is much more powerful than when it is poor. In England, for instance, where they fatten cattle largely on oil cake, it is calculated that the increased value of the manure repays outlay. This is the reason why human ordure is better than manure from any of the animals mentioned above, the food of man being rich and various.

All these kinds of manure should be carefully collected and preserved, both as to their liquid and solid parts. The liquid parts of urine is particularly rich in the phosphates and in nitrogen. This part is by very many farmers permitted in a great degree to run away or evaporate. Some farm-yards are contrived so as to throw the water off entirely, others convey it through a small ditch upon the nearest field. The liquid manure which might have fertilized several acres in the course of the season, is thus concentrated upon one small spot, and the consequence is a vegetation so rank as to be of very little use. Spots of this kind may be seen in the neighborhood of many farm-yards, where the grass grows up so heavy that it falls down and rots at the bottom, and has to be cut some weeks before haying time, producing strong coarse hay that cattle will scarcely touch.

The proper way to save the liquid is to have a tank or hole, into which all the drainings of the yard may be conducted. If left here long, this liquid begins to ferment, and to lose nitrogen in the form of ammonia, which it will be remembered is a compound of nitrogen and hydrogen. To remedy this, a little sulphuric acid or a few pounds of plaster, may be occasionally thrown in. The sulphuric acid will unite with the ammonia, and form sulphate of ammonia, which will remain unchanged, not being liable to evaporate. Others prefer to mix sufficient peat, ashes, saw-dust or fine charcoal, with the liquid in the tank, to soak it all up; others still pump it out and pour it upon a compost heap. One point is to be noticed in the management of a tank. Only the water which naturally drains from the stables and yards should be allowed to enter it, all

that falls from the eaves of the buildings should be discharged elsewhere. Regulated in this way, the tank will seldom overflow, and the manure collected in it will be of the most valuable and powerful description. The tank may be made of stone, brick, or wood, as is most convenient, and need cost but very little.

While the liquid manure is actually in many cases almost entirely lost, the solid part is often allowed to drain and bleach, until nearly every thing soluble has washed away; or is exposed in heaps to ferment, without any covering. In such a case ammonia is always formed and given off: it may often be perceived by the smell, particularly in horse manure. The fact may also be shown, by dipping a feather in muriatic acid and waving it over the heap. If ammonia in any quantity is escaping, white fumes will be visible about the feather, caused by the formation of muriate of ammonia. This escape of so valuable a substance may be in a great measure prevented by shovelling earth over the surface of the heap, to a depth of two or three inches. If this does not arrest it entirely, sprinkle a few handfuls of plaster upon the top; the sulphuric acid of the plaster will as before unite with the ammonia, and form the sulphate of ammonia.

Manures containing nitrogen in large quantities are so exceedingly valuable, because this gas is required to form gluten, and bodies of that class, in the plant; this is particularly in the seed, and sometimes also in the fruit. Plants can easily obtain an abundance of carbon, oxygen, and hydrogen, from the air, the soil, and manures. Not so with nitrogen. They can not get it from the air: there is little of it in most soils; and hence manures which contain much of it, produce such a marked effect. Not that it is more necessary than the other organic bodies, but more scarce; at least in a form available for plants. The same reason applies to phosphoric acid. It is not more necessary than the other inorganic ingredients; but still is more valuable because more uncommon in the soil and in manures.

In all places where manure is protected from the sun, and from much washing from rain, its value is greatly increased.

Horse manure particularly should not be left exposed at all: it begins to heat and to lose nitrogen almost immediately, as may be perceived by the smell. It should be mixed with other manures, or covered by some absorbent earth, as soon as possible. Almost every one who enters a stable in the morning, where there are many horses, must perceive the strong smell of ammonia that fills the place. I have seen in some stables, little pans containing plaster of paris or sulphuric acid, for the purpose of absorbing these fumes, and forming sulphate of ammonia. The liquid that runs from barn yards and from manure heaps, is shown by analysis to consist of the most fertilizing substances; and it is calculated that where this is all allowed to wash away, as is the case in many instances, the manure is often reduced nearly one-half in its value. I have seen yards where it was almost worthless owing to long exposure.

The farmers of this country need awakening upon the subject of carefully preserving their common manures. In Flanders, where every thing of the kind is saved with the greatest care, the liquid manure of a single cow for a year is valued at \$10; here it is too often allowed to escape entirely. Either they are very foolish, or we are very wasteful.

WHAT EVERY FARMER MAY HAVE.

Every farmer may, if he will, have a house, a seat, tasteful structure, adorning his farm, and contributing to his comfort. There is, on every farm, if one could find it, a fit site for a house, with grounds near it suitable for a garden and out buildings.

What a pity such locations should not be selected instead of the sorry places where too many farm houses are placed! We have seen houses standing on a ledge of rocks, and a recess for a garden excavated in a bank in the rear, when, not forty rods distant, a most inviting spot for a building was neglected; and another stuck down on a low, swampy piece of land, with planks running to the road as a means of access, when on the opposite side of the road, a gentle eminence, crowned with noble forest trees, was occupied by cattle.

As to the houses themselves, much might be said. Generally speaking, they seem to be the products of the farm; that is, a thrifty well cultivated farm, has a snug dwelling on it, and a slovenly, ill-tilled one, has an overgrown or decaying tenement.

A correct taste in building is not, or cannot be in the possession of every one. Architecture is science, and taste is the result of cultivation, and none but men educated to their profession, should undertake to design and build a house.

It is true that so many sticks of timber, boards, nails, and shingles will make a building, and so too, a given quantity of iron, steel and brass will make a steam engine, but a novice makes a failure when he undertakes to construct either. Still a little attention, or the perusal of a work on this subject might form some taste, and substitute tolerable dwellings for the ungainly structures that so often are seen.

Every farmer may if he will, have a garden, not a patch of onions here, of beets there, of cabbage some where else, interspersed with bean poles and potatoes, but a veritable garden, a cultivated place.

A farm that has not a plot of ground adapted to the purpose of a garden had better be abandoned at once. There is no good reason, why all the real luxuries that spring from the soil, under the culture of the practical gardener should be confined to the lands of the gentleman of leisure. They belong as legitimately to the sturdy, hard working farmer, and indeed more so; for he who labors most actively should reap the richest harvest. All that serves to make life more desirable, that tends to the improvement of the soil, the mind and the heart, is not beneath the attention of man. We cannot conceive of a more fit place to commence the careful cultivation of a farm, than the garden. It would soon be evident that the greater care bestowed on the soil, the greater its product, and so a system of culture would by degrees be adopted, till the whole farm should become a fruitful field.

In the cultivation of a garden, can be noted on a small scale all the phenomena of growth, and from data there gathered, one can advance successfully from the tilling of narrow beds to that of broad acres. The knowledge necessary to success in gardening, is rather the result of experience, than of fixed rules. There is requisite a taste for the art, close observation, and a modicum of practical skill; give these, and common sense will supply the deficit. We would not by any means, profess to teach gardening in 'six easy lessons,' but we assert that any one so disposed can make a beginning.

There are certain adjuncts to a garden, which a

majority of farmers who take the trouble to cultivate a few esculent roots, seem to think altogether too trifling to merit their attention. Such are beds of flowers, flowering shrubs, grape and other vines. That ever potent argument of expense, and the ready excuse of poverty, cannot be urged against these decorations of the farmer's home. A man may be too poor to erect a costly cottage, but no one is too poor to cultivate a bed of flowers, to plant shrubbery around his humble dwelling, or to train a vine to relieve its bare exterior. A beauty unattained by any triumph of art, is thus in the reach of the most obscure. Nature waits to provide 'without money and without price,' the ornament of a cultivated field, and the pleasure of a cultivated mind.

Contrast for one moment, the cottage and the lawn, with the rude dwelling and its un-kept grounds—compare the beauty and fragrance of flowers, with the unsightly weed and its rank odor—mark the difference between the luxuriant green of shrubbery, and the vacancy of barren yards, and then decide whether an hour of time can be better spent than in effecting such a change.

The past few years have wrought a manifest improvement in matters of rural taste, but as yet its evidences are confined to cottages and farm houses, scattered here and there like oases in the wild desert. It will be seen however, that as agriculture advances and system takes the place of confusion, all these things will receive the attention that they so richly deserve.—*Albany Cultivator.*

BUTTER-MAKING IN WINTER.

The following article is condensed from a communication by "Dairyman," to the *Maine Farmer*, on the general subject of butter-making—but more particularly of setting milk and churning cream in freezing weather. Its suggestions are worthy of attention:

Setting the Milk.—Experience has taught "Dairyman," that milk must be set either in a warm place, or a cold one where it will freeze, to have the cream rise quickly and freely. If the pans are set in a cool place in the winter, the milk will grow bitter before the cream rises. Put it where it freezes partially or even wholly, and the cream comes up as perfectly as in summer.

To get the cream off of solid ice, let the pan stand awhile in a warm room, and it will come off cleaner and easier.

Churning.—*Temperature of the Cream.*—It is said that the cream should be at a temperature of 55° when in the churn, and this is doubtless correct. How to get it there, and how to know when it is about right, without a thermometer, is explained by the writer before us. The cream is an "ice-cream" perhaps, and the manner of thawing it is of some importance. Stand it in the corner by the fire over night, or the cream pot may be set in a vessel of warm water, or the cream may be put in a tin pan, and then placed in a large pan of warm water, until "the cream feels just the least bit warm to the end of the finger, or not quite milk warm," when it is ready for churning.

It should be remembered it is one thing to thaw frozen cream, quite another to melt it. When cream is heated too hot, there is a yellow scum on the top of the cream pot which is the same as melted butter. Melted butter can never be butter again, nor can melted cream be either cream or butter—or anything but melted butter, by any process of churning. "Dairyman" explains this as follows:

"Butter exists in milk in very minute particles, diffused throughout the whole mass, and by setting in a summer temperature, or in a frosty room, these particles rise to the surface and form a coating called cream. The butter particles are really little bags or sacks of butter, or butter oil. The little minute bag is a thin film of curd,—just the same thing as cheese curd,—and this bag is full of butter. Now, if you heat the cream of these million of little butter bags too hot, they will parch open, just like parched corn, and the yellow oil will run out, making in one case a scum of melted butter. The only difference is that the cream is not salted, and the butter is.—So while *thawing* the cream, you must not set it where it will *melt*, and when you put the pot into *warm* water, you must not have *hot* water. Have the water so that you can hold your hand in it, and do not think of driving business, or you will have a mass of melted cream to float over the buttermilk pot."

When the milk is "just barely milk warm," the churn should be scalded and the cream put in, and then commence churning. The butter will come in ten minutes, or perhaps in five, but butter that comes in five minutes is not as good as that churned double the time. If the milk is too warm, the butter will be white—if a little warmer, it will not come at all—if too cool, it will froth up and not come.

This matter of *frothing* is not well understood by most butter makers. We copy, therefore, "Dairyman's" explanation:

"If you put the cream into the churn as warm as dishwater, it will not come: in this case let the churn stand open till the cream cools down so as to be the least bit warm to your finger—then the butter will certainly come shortly. But if the cream is cool and not warm at all, then it will not come. *When may you know that it is certainly too cool?* Namely, just when it *froths up a great ways in the churn*. You may churn a week and it will only not come, all the more.—So stop at once, turn it out into the cream pot and warm it again, and be more careful; for, if it is just a little warm, it certainly will come. Notice, it will almost always froth up three or four inches, but after churning five or ten minutes, the froth looks creamy, and does not rise any higher, then no matter: it will come soon. But if a light, white froth fills the churn, and if, thrusting your finger down through into the cream, you find the cream cool and even cold, then turn it out—it is of no use to churn. But if there are several inches of froth, and still the cream is really *warm*, then churn away. If the cream is too warm it will not froth at all—not a bubble; and if, on taking off the cover, it steams up well, you had better let the cover be off and cool down till it is just barely warm, then churn. But if it is so very warm as not to froth, and steams so that you can hardly see down to the cream, it never will come so—it must cool down some."

The object of scalding the churn just before putting in the cream, is to warm it—in summer cold water should be used to cool it. Another thing—the churn must not be too full; there must be room for the dash to break the cream, or the butter cannot be made.

Churns and Churn-dashers.—"Dairyman" likes the common dasher churn better than any other, and a great many butter-makers agree with him. If the cream is right, the butter will come as soon with one churn as another, and the simplest is the best.

It is a fault of most churn-dashers, that the prongs

or wings are wider than necessary or useful. With dash prongs an inch and a half wide, the work of churning is lighter than with them three inches wide, and the butter will come quite as soon.

LUXURIES ENJOYED BY FARMERS.

CHAUNCEY P. HOLCOMB, in his interesting and valuable address before the Montgomery County (Maryland) Agricultural Society, represents in a strong light, the superior advantages possessed by farmers, for obtaining at a cheap rate, the comforts and luxuries of living—cheap, as compared with the rate at which the same are procured by the city resident, who pays a high price for the house he lives in, the food which supplies his table, the fruit he partakes of, for every ride he enjoys, and for other numberless gratifications, which the farmer finds in the natural course of events ready at hand. On this subject, Mr. Holcomb remarks:

"I would like to see an account stated, say by a master in chancery, were he was instructed, from the character of some litigation that might arise, to charge the farmer with each item he had consumed at city retail prices, and for each ride he had taken at livery stable prices. It would show up some of our "economical farmers," so called, I suspect, as great spendthrifts. The rate at which they had lived would not a little surprise themselves as well as His Honor the Chancellor.

Of the capacity of a farm to pay an income in raising and supporting a family, I was forcibly struck on being called on by a respectable old neighbor in his last sickness, to draw up his will. Seated at his bedside, I asked him what he wished to dispose of. "My farm," said he. Knowing he lived, I may say, like a gentleman, a country gentleman, riding always in good style, dressing and educating his family well, entertaining liberally, besides having a family of grandchildren on his hands to support, although I knew he was a good farmer, and an industrious man, and the hands of his helpmeet were swift to the distaff, still I thought that with his farm of but two hundred acres he must have got behind, and put him a question to learn if he meant to give it subject to any incumbrances. "Incumbrances," said he, "oh, no, sir, the good farm has kept herself clear; not an acre of her soil," exclaimed the old man exultingly, "is covered by any man's parchment. The farm has supported me and my wife for nearly half a century; we have raised our ten children on it, and it has been a shelter and home to our grandchildren when their parents were stricken down or overtaken by misfortune. I have it now clear to leave to my children, with about \$2,000, its surplus earnings, out at interest."

This incident occurred early in my farming life. It made a strong impression on my mind. I said after this: "I will trust to my farm, I see it will at least support and feed me and mine, I will even lend it the last dollar I can spare." Yes, we may trust the land. The banks and the railroads, the stock and the scrip, may or may not pay us back, but this nursing mother will fulfill all her promises, honor all drafts. You may draw on her at six months for your oat crop, and nine months for your corn crop, and at twelve months for your wheat, and if from any great calamity, as the drouth or the flood, she cannot always fully pay up on the day, she will make a handsome instalment, ask a little time, and then pay up to the last farthing, and if you have been generous to her, maybe she will make you a handsome present besides."

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Address, S. SANDS & WORTHINGTON, Publishers, At the State Agricultural Society's Rooms, 129 Baltimore St. Over the "American Office," 5th door from North St.

The Executive Committee of the Maryland State Agricultural Society will meet on Wednesday next.

TO THOSE IN ARREARS TO THE FARMER.—During the past month we have forwarded a statement of the account of those who are in arrears for more than the current volume of the *Farmer*. It is probable that some may have paid to agents with whom we have not had settlements—in such and other similar cases, we will with much pleasure make any correction. The amount outstanding on our books is very large, and we rely upon the kind feeling of our subscribers, and their sense of justice, to liquidate the same at their earliest convenience. The sum due is but a trifle to each one, but to us, the aggregate, if in hand, would make us peculiarly comfortable in our affairs in the financial department.

THE RECIPROCITY TREATY.—The paper upon this subject in this month's "*Farmer*," is from the pen of an agriculturist of a neighboring state, who has devoted much of his attention to the important subject upon which it treats. We have much reason to fear, and expressed our apprehensions prior to its ratification, that the agricultural interests of the Middle grain growing States, will be materially affected, in time, by the operations of this treaty. The largest portion of our imports of breadstuffs is coastwise, and the manufacturing districts of N. England are the principal consumers of our produce—with the facilities now granted to the British provinces, and the advantages they will enjoy over us, by their cheaper labor and facilities of reaching market, as shown by our correspondent, there is good reason to apprehend, that we shall have established a formidable rival in our neighbors.

ESSAY ON TOBACCO PLANT BEDS.

We thank our correspondent for what we consider good practical instruction in growing tobacco plants. Our young friends and those who want such help, may take this article as an excellent guide to their efforts in the most important and most difficult part of tobacco culture. The greatest, and we think, the only protection against the fly, is the quick, rapid growth of the plants, and such preparation of the ground, and after management as secures this, is their greatest safe-guard. The same management, which is the best security against the fly, is most likely to ensure an early supply of plants, which are the next great points to be aimed at. Of late years, the planter who can not plant out his crop by the 10th of June, has an indifferent chance of success. To enable him to do this, in this latitude, his plant beds must be managed judiciously, and must have his watchful, unwearied attention.

FARMERS' AND PLANTERS' AGENCY.—The editors of the "*American Farmer*" have made arrangements for the conducting of a general commission business, for the purchase and sale of *Manures, Live Stock* of every description, *Agricultural Implements and Machinery*, &c. They pledge themselves to use every effort to render satisfaction and do justice to those who may entrust them with their orders. They will give particular attention to the purchase of *Peruvian and Mexican* and other *GUANOS* that may be offered in this market, and as they always purchase direct from first hands, farmers and planters may rely on obtaining the best articles. They will also attend to the purchase of *Plaster Paris, Bone Dust, Super Phosphate of Lime*, &c. They solicit the support of those for whose benefit this Agency has been established—they believe that they can be of service to their patrons and the public, at the same time that they are receiving a remuneration for their own time and labor. See advertisement.

SEIZURE OF GUANO ISLANDS.—A company, it appears, was formed in Baltimore, some months ago, to procure guano from a cluster of island, or rocks, in the Carribean Sea, denominated Bird Islands, on the coast of South America. Vessels and laborers were sent out, and operations commenced, but were speedily put an end to by the Venezuelan government, and the laborers and others engaged in the business were ordered off, and some of them, including 26 negroes, have arrived at Boston, in the brig H. H. D'Gilvery. Twenty-four hours were allowed by the government to leave the island, and the brig Amazon was to leave the day after the above vessel with the remainder of the laborers.

TO CORRESPONDENTS.—In reply to A. J. W. L. Gates county, N. C., we recommend, that his land be well turned over and harrowed, before applying his bones and potash. The course usually approved, perhaps, for preparing his manure, would be to make a compost of the bones with dry loam, and using say 100 lbs. of potash to the acre, make with it a solution, and pour it upon the heap, stirring and mixing it thoroughly with the compost and bones, and allowing it to remain in compost some days, to cause fermentation of the bones. We confess however, that if the bones are finely ground, we should throw them unmixed upon the land, and using dry loam enough to take up the solution of potash, put that on at the rate mentioned.

In reply to our friend in Frederick county, we have no analysis at hand of chess and cockle, but advise him to make experiments in using these articles—mixing one bushel with one of corn, and having them ground together. It will no doubt economise his food for stock. The grinding is necessary, otherwise a portion of the seed would pass through the stomach without having their vitality destroyed, and prove troublesome in the soil.

COW PEAS.—In answer to our call for information as to the price of Cow Peas, and also where they can be had, we have received several communications, and have made arrangements to supply those wishing to obtain a supply.

PURE BRED STOCK.—We would refer those wanting pure bred stock, to the advertisement of Col. L. G. Morris, of N. York, on page 250 of this No

We call the attention of our readers to the able Essay of Dr. Pendleton to the Virginia State Agricultural Society, on the subject of lime and acid soils and plants.

Ever since the publication of the "Essay on Calcareous Manures," the theory of its Author as to the action of lime upon acid soils has ruled in the agricultural community. No man of his time from his scientific attainments as well as his practical knowledge of agriculture, was better calculated to give currency to his opinions than Mr. Ruffin. That the theory is erroneous we have long known from numerous facts within our own observation, and what we know to be true, in fact, we are glad to find accounted for by the scientific exposition of Dr. Pendleton.

Mr. Ruffin's theory is, that acid plants, such as "sheep sorrel," "broom grass" and "old field pine," indicate the absence or deficiency of lime in the soil. We deny its truth, because we are familiar with thousands of acres of land which in their unimproved condition grew just these very acid plants and nothing else of their own accord, which have been brought to yield not uncommonly an average of thirty bushels of wheat on fallow, eight and ten barrels of corn, and eight to ten thousand lbs. of tobacco to the acre. In our own experience, an old meadow which the first season after it was broken up, was perfectly matted with *sheep sorrel* for two successive years, averaged fourteen barrels of corn to the acre; of course no such crops could be made without an ample sufficiency of lime; yet no lime has been applied in the improvement of these soils except an average yearly application of half a bushel of the *sulphate of lime* or plaster. We call to witness the farmers of the fine *South River* and *West River* lands in *Anne Arundel* county, and of the improved section of *Prince George's*, *Charles*, *Calvert* and *St. Mary's* counties, whether these plants are not universally the natural growth of their lands, and whether their improvements have not been almost universally independent of the use of lime.

Another theory growing out of the first, was, that the application of plaster or *sulphate of Lime* on such acid soils was useless, because the *oxalic acid* in the soil having a greater affinity for lime than *sulphuric acid*, would, on coming in contact with it, decompose the plaster and render it useless. This theory is more unfortunate than the other, for it happens that the very lands which of all within our knowledge, have been most improved by the application of plaster, (*sulphate of lime*) have been just those lands growing *sorrel* and *broom* and *pine* before spoken of. Nor is it true that lime will as a matter of course destroy "sorrel" and other plants. We know it is a simple, pretty theory, the remarkable affinity of "*oxalic acid*" for lime—the lime put upon the soil to neutralise the acid there, just as a man pours soda down to neutralise the acid in his stomach. This last is a familiar experiment, and the other is easily demonstrated in the laboratory. The facts teach us the necessity of receiving such theories with caution, and that what takes place in the laboratory does not certainly indicate what is going to take place in the soil. The writer of this having his zeal newly stimulated by the demonstration of a distinguished lecturer, on hunting up his shell-banks, was a good deal taken aback, as may be supposed, to find the surface of the soil in which the decomposed shell was bedded, and which Professor Ducatel had said, contained twenty-five per

cent of carbonate, pretty well sprinkled with plants of *sorrel*. A hoghead of building lime was accidentally broken open, and portion of the lime left upon the surface, at a much larger rate than any ordinary application. There was at the time an indifferent growth of white clover and *sheep sorrel*; he noted the growth for five years, that it was unbroken, and the *sorrel* was by no means diminished in growth or quantity. He burned a lime-kiln, and when the lime was removed, a luxuriant circle of vegetation grew up around the spot, and on the the inner edge of the circle, nearest the ground, made naked and barren by excess of lime, was the largest bunch of *sheep sorrel* he ever saw.

Now let us be understood; we give these facts not with any purpose of discouraging the use of lime, on lands which may require it. We know that there are within the limits of our circulation great bodies of such lands, and that for them it is a most valuable and permanent fertilizer. But we would not have these acid plants relied on as indications of the absence or deficiency of lime in the soil, in the first place, because it is not true; and secondly, because in our inland country, where lime cannot be had, it will discourage attempts to improve with more portable fertilizers, lime being, according to their theory, a "*sine qua non*." It will prevent the use of plaster, in sections, to the improvement of which it is peculiarly adapted. And Guano, the last and greatest gift of a bounteous Providence to the impoverished soils of the Atlantic States, will be laid aside with the vain belief that until lime can be had, it will avail nothing.

STOVES, TINWARE, &c.—We refer those who may require anything in this line, to the advertisement of Messrs. E. Mills & Bro., No. 2 South Howard st., one door from Baltimore st. These enterprising young mechanics had been established in business in this city for less than a year, when the recent terrible conflagration in Baltimore st., near Eutaw, reached their warehouse, and nearly every thing was destroyed—they had an insurance but for a small amount, sufficient however to replace their tools and fixtures, and with the kind indulgence of friends who knew their worth and integrity, they had still the prospect of commencing anew their business, and with the help of industry, good health, strength and character, they flattered themselves that they would soon be enabled to recover from the effects of their disaster—but their feelings may be better imagined than described, when on application for the amount of their insurance, they found that the Insurance Company was without any solid foundation, and there was but little probability of their receiving a dollar from that source. Notwithstanding this double misfortune, they have, with a zeal and perseverance which is worthy of all praise, again established themselves in the neighborhood of their old stand, and we do with all confidence commend them to our friends and the public as worthy of their patronage in every respect.

INSECTS ON FRUIT TREES.—The "remarks" of Prof. Harris, "on some of the diseases and insects affecting fruit trees and vines," is a paper of great value and interest to every fruit grower. Dr. Harris ranks amongst the very highest Entomologists of the age.

Heavy carrot crops for cattle, will soon return carats of gold.

ROOT CROPS.

We give below from the *Rural New Yorker*, one of the many experiments published, showing the value of Carrots as food for milch cows. We earnestly wish that Maryland farmers, and all others who have or wish to have good stock would give more attention to the cultivation of Root crops. That more nutritive matter in the shape of Ruta Baga, Sugar Beet, &c. can be obtained from the same extent of land, and at less expense than in any other crop, there is a great reason to believe. Three and four hundred bushels to the acre are common crops, and eight hundred and a thousand bushels we frequently see accounts of. Professor Mapes, states that he made a thousand bushels of carrots to the acre the past year. But what in our opinion makes the root crop indispensable to those who would have good stock, is the sort of food they afford for the winter months. They are the best substitute for fresh grass. They keep the bowels and the skin in good condition, and bring cattle through the most trying season, the early spring, in good order, to make the most profitable use of the fresh pasture, and not as is otherwise too much the case, requiring six or eight weeks of grass feeding to get them rid of their old coats, and put them in good condition. Of course we do not mean that roots are to be fed alone to stock, but in connection with hay, straw or corn fodder.

To grow root crops successfully, thorough preparation of the ground, and careful after culture are indispensable. For ruta бага we would plough well and deeply as early as the middle of May, and for carrots, parsnips and sugar beet, in March. The ground should be harrowed and rolled and harrowed again, until it is pulverized to its full depth. When ready to plant, we run furrows with a small plow at the distance we intend to have the drills, say three feet, and when these are made, throw into them well prepared compost, or what we consider better and less laborious, about three hundred weight of best Peruvian Guano to the acre; then run a sub-soil plough, if you have one, in these furrows and complete the process by throwing a light furrow from each side, sufficient to make a little elevation of the ground over the manure. Sow the seed on these ridges, harrow lightly, and roll. We give a top dressing of plaster and ashes mixed, either before or after harrowing, and another soon after the plants are up. To ensure germination, which is very uncertain late in the season, the seeds of carrot and parsnip should be sown in this latitude by the 10th of April, and sugar beet by the 10th of May. Ruta бага, to make a heavy crop, should be sown by the first of July. Sugar Beet and Ruta Baga, bear transplanting well. Cobbett, who wrote perhaps the best essay ever published on Ruta Baga, gives some good reasons for preferring altogether to raise the plants in a bed and transplant them. At any rate, vacancies in the rows, can be readily filled in this way. When the plants are up, keep them clean of grass and weeds, thin them out when large enough to transplant—sooner than that if they crowd each other, and keep the surface well pulverized.

Messrs. Editors.—I have tried feeding carrots to milch cows, and will give you one of my experiments. I have (April 15th), seven cows in milk—one calved in June, the rest in September and October. I raised 80 bushels ruta bagas, and 400 bushels of carrots, and fed them to my cows, commen-

cing the first of December. I gave them 2½ bushels per day, at noon, the ruta bagas first, and when they were all fed out, the same quantity of carrots. I found, when I had fed the latter a few days, that my cows were each giving from two to three pints of milk more per day, than when fed on ruta bagas: I was feeding my cows meanwhile, with cut hay, and two pounds oil-cake meal, and 2½ pounds wheat screenings, ground.

The thought struck me that I should like to know the value of carrots for making milk, so I selected the cow that calved last for the trial. I weighed the hay, meal and carrots, and I fed per day 27 pounds of hay, 4½ pounds of mixed meal, and 22 pounds of carrots, and she gave 35 pounds of milk per day. I then left off the carrots, and gave the same amount of meal, and all the hay she would eat, which was 33 pounds per day.—After feeding so for a week, I found she gave 23 pounds of milk per day. I then gave her the carrots as before, and in eight or ten days she came up again to 35 pounds of milk per day.

This shows that carrots are worth to me, to feed to cows, 82 cents per 100 pounds. Hay is worth \$20 per ton in the barn, and at 3 cents per quart, or 1 cent per pound for milk; 6 pounds less hay, and 12 pounds more milk, give 18 cents for 22 pounds of carrots. My carrots are all gone now, or I would try one or two more cows. Next winter I hope to have another opportunity for experiment.

PROBABLE EFFECTS OF THE WAR ON AGRICULTURE.

A correspondent of the *Richmond Enquirer*, writing from Liverpool, on the war, says, the spirit of the English is united in favor of the war, and that men and money will be voted for its continuance, by Parliament. He adds:

“Yet, when drained of her men, when so many thousands now engaged in peaceful pursuits are taken away, and the labor of the country thus manifestly lessened, who, I pray, are to furnish meat and bread for these vast armies, and the population that yet remains at home? There is not a mouth less to feed, and many less left to produce the necessary food for all, at home or abroad. Russia will send nothing from the Baltic, and the wheat-growing country on the Danube, and that which is watered by the many rivers entering the Black Sea, is ravaged by desolating war; and all that the people of the vast and rich country has for years sent abroad, and to England especially, will find for its diminished production consumers at home. Already are these considerations pressing on the English wheat and flour market, and keep up the prices, even after a good crop, which has been secured in a most admirable condition. Wheat sells now at rather higher prices than it did one year ago, and our own country can now but insufficiently supply either England or France. But let our people make less tobacco and less cotton the next year and the year after, and, I tell you, your millions of wealth will be drawn hence to us, if for these now staple articles, articles of wheat, corn and provisions be substituted. Clear up our lands, and put the utmost breadth of them in everything necessary for the food of man; and every article that is produced will find an admirable market the next year. True, our wheat crop is already in the ground, and its quantity cannot be increased. But our corn crop may—and that is an article which will pay much better next year than either cotton or tobacco.”

GUANO DEPOSITES.—We noticed recently the discovery of a guano deposit on a small island in the West Indies. The editor of the Germantown Telegraph has received a box of the guano, with the following letter, and analyses :

PHILADELPHIA, January 10, 1855.

Mr. P. R. FREAS :—Dear Sir—I have received a sample of Guano (?) from one of our West India friends, discovered on an island in the neighborhood of our principal places of business there. If it can be introduced here as a fertiliser at two-thirds, or even half, the cost of Guano, (Peruvian,) it might prove of value to us in the way of affording return cargoes for our vessels.

I have had it analysed by Mr. Boye, of the High School, and enclose you a copy of the result, as also, a copy of the analysis of the Peruvian Guano.

Mr. B. says that, at two-thirds the price of the Peruvian Guano, it would be as cheap a fertiliser. As far as my limited knowledge of such things enables me to form an opinion, I should say it resembles a rich, light earth, without anything to recommend it as a manure : and knowing your superior knowledge of such things, I take the liberty to trouble you with a small sample, and will be obliged if you will communicate to me your general ideas of its value, and whether you think it would be difficult to introduce here. Believe me at all times willing to reciprocate your many favors.

Very truly yours, C.

Analysis of the New Guano.

PHILADELPHIA, January 2, 1855.

According to your request, I have analysed the specimen of "Guano" (?) from the West Indies. The following is the result of the analysis, in 100 parts :

Moisture,	36.50
Ammonia,	1.09
Remnants of insects & other organic and volatile matter,	44.03
Phosphate of lime,	11.40
Carbonate of lime, with a small quantity of nitrate of lime,	8.94
Sulphate of lime,	3.80
Magnesia,	1.40
Chloride of sodium, &c.	2.26
Silica, (sand,)	0.67

100.00

The chief part of this specimen is evidently derived from the droppings of several varieties of bats and other similar animals feeding on insects. The usual per centage of "moisture," is probably the consequence of the sample having been some weeks on board of a salt vessel. Very respectfully,

(Signed,) M. H. BOYE.

Analyses of the Peruvian Guano.

Phosphate of Lime,	24.77
Ammonia,	17.58
Organic Matter,	38.63
Carbonate of lime,	0.38
Carbonate of magnesia,	1.13
Alkaline, phosphate and chloride,	2.90
Water,	14.00
Silex or sand,	1.31

100.00

The opinion of our friend and correspondent, as to the nature and appearance of this candidate for favor, in the guano line, is in accordance with our own. And as to its value, as a fertiliser, the analyses of Prof. Boye ought to be conclusive, in showing that compared with the Peruvian article, it must be estimated at a very low figure—say not over one-fifth. The sample has the appearance of a dark, rich earth, mixed with the droppings of birds, but the valuable parts of which have so completely

disappeared as to "leave not a trace behind." This will be well understood by looking at the small proportion of ammonia and the large proportion of organic matter. Its smell is precisely similar to rich earth, found under a barrack or old building, which has been for many years excluded from the effects of the sun.

We are sorry that the hopes expressed by Prof. Boye, as to its comparative value with Peruvian Guano, are unlikely to be realised, as this new article of trade with the West Indies, would have added much to the importance of our commercial intercourse, as well as the general interests of the agriculture of our country. We shall be happy to hear, however, that we are mistaken in our estimate of the value of this substance; or that the sample sent, is inferior to the general deposit.—Telegraph.

From a valuable paper on the Commerce and Trade of Baltimore for the past year, in the "American" of this city, we copy the following, on

THE GUANO TRADE.

Guano.—The very extensive increase in the use of Guano as a fertilizer of the earth has caused the trade in it to become exceedingly important. The number of vessels arrived at the port of Baltimore the past year, loaded with Guano, was 135, mostly ships of the largest class. Assuming the freight paid to those from Peru to be an average of \$28 per ton, the freight money alone amounts to \$1,625,000. The whole value of Guano imported from Peru, at \$50 per ton, is \$3,150,000, and that from other ports at \$25 per ton, is over \$255,000, making the value of the Guano imported into Baltimore the past year nearly three and a half millions of dollars. It is to be remarked that the largest import of Guano has been into Baltimore, and without correct data, it is assumed that the quantity imported equals that of all the other cities of the Union. The trade in Peruvian Guano is, as is well known, an entire monopoly of the Peruvian Government, and its price is not affected by competition, but is entirely within the control of the Agent of that Government. At the close of the year the supply on hand is very large, being computed to be about 40,000 tons, or about half the whole import of the year. The market in the Spring will, therefore, open with a stock sufficient to meet almost any demand, but in the mean time supplies are not expected to continue as freely as heretofore, as it is understood that but few vessels have been chartered to proceed to the islands within the past three months. We subjoin the imports for the past year and for several years previous :

IMPORTS OF GUANO FOR 1854.

Peruvian.....	58,227
Mexican.....	9,514
African.....	637

Total.....68,378

IMPORTS OF PERUVIAN GUANO INTO BALTIMORE FOR SIX YEARS.

1849.....	2,700 tons
1850.....	6,200 "
1851.....	25,000 "
1852.....	25,500 "
1853.....	32,153 "
1854.....	58,227 "

COAL ASHES.—The best purpose which coal ashes can be applied to in town or country is in making garden walks. If well laid down, no weeds or grass will grow, and by use they become as solid and more durable than brick.

THOROUGH TILLAGE.

Prof. NASH, the editor of the *Conn. Valley Farmer*, in his Sept. No. gives a variety of notes gathered from farmers whom he had recently visited. We copy one of them:

Our first gleanings are from a farmer in Worcester county, who showed us a three acre lot, once intolerably stony, now cleared of stones and trenched to a depth of sixteen or eighteen inches, and the soil to that depth made like a rich garden mould, by working and manuring. This lot is set to apple trees, now seven years from the seed, and already bearing considerably, many trees having something like a bushel of the choicest varieties of apples. Two acres of the lot are now in onions. The other acre has given a crop of barley, and is to give another of turnips. The onions are in drills, 12 or 14 inches apart, and if we are any judge of such matters, they must yield over a thousand bushels from the two acres, and we should not think it strange if the yield should be nearer two thousand. We have grown them on small patches at the rate of very nearly a thousand bushels to the acre, but we have never seen a heavier growth than this whole field seems likely to reach. The owner declares that he is managing this field with a view to test the question, whether three acres cultivated in the best manner, cannot be made to give a clear profit over all expenses of cultivation equal to the average profit on farms of a hundred acres, in that county, cultivated in the ordinary way. His views at first struck us as extravagant, but on learning what crops he had taken from the field and seeing his prospects for large quantities of choice fruit in coming years, we are constrained to admit that he probably will obtain a greater nett profit from those three acres for a succession of years than is derived from some farms of a hundred acres. His way is, to charge the field interest on its original value, to charge it for all the manure and labor, and to credit it by the selling price of whatever is sold from it and a fair market price for such produce as may be consumed at home. This farmer would be the last to speak irreverently towards Him, who gives and withholds the rains at his pleasure; but yet he believes deep and rich cultivation to be all but an absolute guaranty against harm from excess or deficiency of rain—is about as fearless of drouth as the resolute school boy, clad in wools and furs, would be of cold in skating time. With some traits of his farming we were exceedingly delighted, and we hope to revert to them at some future time.

WHO IS THE INVENTOR OF THE FIRST SUCCESSFUL REAPING MACHINE?

Although the subject of reaping and mowing machines, has for several years past been of paramount interest with the majority of farmers, but few are familiar with the facts contained in the following extracts form a series of deeply interesting articles on the "*History of Reaping Machines*," in course of publication in the *Scientific American*. The extracts are from the pen of Mr. Hussey, who claims the honor of having invented the first successful reaper:—

"There is no account of any successful reaper in ancient times, and it is well known that England and Scotland never produced any up to the time of the London Exhibition of all nations in 1851; it consequently follows that the claim of priority is

clearly confined to the United States. The question then is, who originated the successful reaping and mowing machine?

I do not desire to urge any unjust claim for myself, but I wish to maintain the credit which is justly due to me.

It is known to the country, and by farmers in particular, that there are at this day several successful reaping machines, which are known by different names; but it is not generally known that all of them, without exception, embrace substantially the principle invented by me, and exhibited by myself in successful operation in the harvest field as long ago as 1833, and however surprising and unexpected this statement may appear, it is nevertheless true that there is no successful reaping and mowing machine now in use without it. Most of the reaping and mowing machines of the present day are of recent date: nearly all of them are little more than copies of my invention.

The old Roman machine seems to have been little more than a cart, backed up to the wheat.—This mode of approaching the grain was followed by the Scotch and English inventors from the remotest period in the history of reapers down to 1854. The earliest of these English and Scotch machines appear to have been constructed on the rotary principle, the cutting instruments being placed on the periphery of a large horizontal wheel, which revolved near the ground. Bell, of Scotland, at a later period, used scissors. His machine presented to the grain a row of pointed blades, which operated like a series of tailors' shears, but it was soon pronounced a failure. The American reapers woke it up from a long sleep in 1851. It was resuscitated and flourished for a brief season, took the English and Scotch prizes in 1853 by especial favor, and was again condemned at the late meeting of the Royal Agricultural Society held in Lincoln, (England), the present year (1854.)

Much time, labor, and money were expended on these reapers for many years, but there does not appear to be any record of a successful reaper until my discovery, first publicly exhibited in successful operation on the 2d day of July, 1833.

In conclusion, I will submit the following points, and leave it to the judgment of the public to decide who was the inventor of the successful reaping and mowing machine:—

First.—Every effort at reaping by machinery from the earliest time down to July the 2d, A. D. 1833, were failures.

Second.—The double or slotted finger in combination with vibrating blades was not used by any other person than myself previous to the 2d day of July, 1853. On that day this invention was put into successful operation by me, and its performance approved by an agricultural society, then present on the field.

Third.—Every successful reaping and mowing machine, of whatever name, which has been brought before the public since that time, is substantially of the principle invented by me, and put in successful operation by myself on the 2d of July, 1833.

No change has been made in the cutting apparatus of my reaper since 1833, except an improvement to prevent choking, but several changes have from time to time been made in the construction of the woodwork, and in the arrangement of the gearing, to render the machine convenient and durable, and of lighter draught."

The editor of the *Scientific American*, in introduc-

ing the above sketch, gives a history of all other attempts to introduce Reaping Machines, and adds:

"As none of these machines have remained with us; indeed, as not one of the great number of reapers which were patented before Hussey's, have now an existence but in name, the conclusion is, that from some fault in the principle of their construction, they failed to accomplish the great object for which they were designed. As Hussey's, therefore, is still in use, and was a successful machine from the first, it must embrace features peculiarly fitted to accomplish its work. It therefore deserves to be dwelt upon with more minuteness than any other. The inventor himself, having the greatest confidence in his claims, sent us his original patent, to examine it for ourselves. In addition to his patent, Mr. Hussey has sent us a history of his invention, and his efforts in the construction and introduction of his reaper. We will present the substance of this history, and allow Mr. Hussey to present his own claims as the inventor of the first really and continually successful machine of this class.

"The first public trial in the harvest field with Hussey's reaper, took place on the 2nd of July, 1833, before the Hamilton County Agricultural Society, near Carthage, Ohio. Dr. Wallace, Secretary of the Society, gave a certificate, a copy of which is now before us, dated the 20th November of that year, in which he states he was present, saw the machine operate on a field of wheat, which it cut clean and with rapidity, and that it established one point satisfactorily, namely, that it was constructed on a principle to operate. We have also the copy of a certificate of nine witnesses of this same trial, in which they state, that although the machine was not well constructed (mechanically merely), that its performance far exceeded their expectations. In 1834 this machine was introduced into Illinois and New York, and in 1835 into Missouri, in 1837 into Pennsylvania, and in 1838 Mr. Hussey removed from Ohio to Baltimore, Md., and has continued to manufacture his reapers there up to the present time."

SETTING A LOT IN GRASS FOR PASTURE AND HAY.

In conversation with a friend some days since, he told us that he had a lot of about $1\frac{1}{2}$ acres, that had been manured and ashed, but which he had failed to set in clover, sowed with oats, last year, that the oats were so rank that they fell and rotted on the ground, and the clover died out—he stated also that he was anxious to put the lot in something next spring, but did not wish to sow oats again,—that the ground from being hilly was subject to wash very much, and therefore was not adapted to corn; that his desire was to get it in grass for the double purpose of hay and pasture, and enquired of us, how he should manage to attain his object, asking at the same time whether winter ploughing would not be of service. As there may be others similarly situated, with similar aspirations, we will detail here, what our advice to him was.

We advised him, if his soil was stiff clay, to seize upon the first favorable period during winter when the ground was neither wet nor dry, but moist, to plough it, and to plough it horizontally, that is, across the hill, and turn the furrow slices down hill, to prevent washing;—and to be sure to plough deep. That next spring, he should roll first and then harrow until he should get the ground into

a fine tilth, then roll again, when it would be fit to have the grass seeds sown thereon; that, prior to sowing the grass seeds, he should spread on his $1\frac{1}{2}$ acre lot, 7 bushels of bone-dust, and then sow his lot with the following grass seeds in the quantities named, viz:

$1\frac{1}{2}$ bushel Italian Rye grass seed,
 $1\frac{1}{2}$ peck of Timothy Seed,
 $1\frac{1}{2}$ bushel of Orchard-grass seed,
 20 lbs. of Red clover seed, and
 1 bushel of Kentucky blue-grass seed.

To sow the timothy and clover seed, each separately by itself, and that he should mix the other seeds together and sow them, first moistening the orchard grass seed, and letting it lay in bulk a day before mixing it with the others. And that, after the seeds were sown, to harrow the whole in lightly with a light garden harrow, and roll the ground. We informed him that, as the Italian Rye grass was an annual, he might cut it for hay when it came in bloom, with the assurance, if the weather was seasonable, of getting a good crop. That as soon as he had cut, cured, and removed, his crop of hay, to sow on the field 2 bushels of plaster, and 4 bushels of salt, and he might calculate on having a well set lot for many years, either for hay or for pasture, and that if he top-dressed it with 4 bushels of bone-dust, 10 bushels of ashes, and 4 bushels of salt, in the autumn of every second year and harrowed and rolled them in, it would continue to give him luxuriant crops of grass for 10 or 15 years.

As to the time of sowing the seed, we stated that we should be guided by the condition of the soil and weather in the spring—that whenever the soil was sufficiently dry and warm to cause the seeds to germinate, was the proper time for sowing them.

We added farther, that if his soil was not a stiff clay, we would defer ploughing until Spring, and until the frost was out of the ground, and the ground in a condition to be worked without injury.

KNOWLEDGE WANTED ABOUT FEEDING STOCK.

To the Editors of the American Farmer.

PREMIUMS OFFERED FOR EXPERIMENTS.—Most men of observation will doubtless readily concede that there is a greater want of positive knowledge in regard to many branches of agricultural science, than is observable in any other department of practical knowledge in the range of our industrial classes. And there is no one branch of husbandry, perhaps, in which the farmer labors so much in the dark, as that of preparing food for his various kinds of stock; and nothing would enure more to his benefit, we think, than an extended knowledge of experimental feeding.

Therefore, we suggest the propriety of devising some method, if possible, of eliciting a series of experiments in feeding ground food, as compared with unground; and of cob meal, especially, compared with corn fed in the usual manner.

It has occurred to us that perhaps the offer of premiums might induce some to labor a little in this field of experiment, and to give the result to the public. And hoping other interested parties, dealers in agricultural cauldrons particularly, will unite with us in swelling the amount, we make the following proposal to the farmers and feeders of Maryland and Virginia, to wit:

First, we will give one of Scott's Little Giant Corn and Cob Mills, large size, No. 4, to the party making the most thorough test in feeding ground

corn, either dry, wet, or cooked, with or without cob, as compared with corn unground.

And for the second best test or experiment, we will give one Little Giant, No. 3.

And for the next best test, one Little Giant, No. 2.

We will require the parties desiring to compete for the premiums, to signify to us their intention by letter, before the first of May next, and to report to us before the 1st of September next the result of their experiments; which reports we pledge ourselves to forward to a committee of three, to be appointed by the editors of the American Farmer.

We also promise to forward without delay the several "Little Giants" to the parties to whom the committee of three shall award the premiums. And we guarantee the mills shall not only be of the very best our skill will enable us to manufacture, but of extra finish and workmanship.

Respectfully, &c., SCOTT & MOCKEE.
BALTIMORE, 25th January, 1855.

SUGGESTIONS IN REGARD TO THE EXPERIMENTS.

We have no disposition to intimate to the committee what should be regarded as thorough tests or experiments; leaving the simple question for them to determine, who has made the most thorough test, all things considered. We will remark, however, what we think these experiments ought to aid in proving to the farmer:

1st. How much pork will 100 lbs. of corn make, fed in the ordinary method.

2d. How much will 100 lbs. make, when ground and fed moistened, soured or cooked.

3d. How much beef will 100 lbs. of corn make, fed upon the cob as usual.

4th. How much beef will 100 lbs. of corn make, ground cob and corn together, circumstances and conditions being the same, compared with corn fed upon the cob.

5th. Under what circumstances, if any, will it be proper to feed cob meal to hogs.

6th. What will be gained by feeding to horses cob meal, compared with feeding corn upon the cob.

7th. Of what degree of fineness is meal to be prepared for the various kinds of stock.

8th. How long will horses, mules or cattle keep in good condition upon ground cobs alone.

DIFFERENT OPINIONS IN REGARD TO FEEDING.

We have been in a position to elicit a variety of opinions, the past fall, upon the subject of feeding, and have sometimes been amused at the variety of conflicting views entertained by some of the most intelligent farmers in regard to feeding ground food.

A has said, corn should never be fed to any kind of stock, unground.

B says, it is useless to grind for horses; that they can grind their own food well enough.

C remarks, he has repeatedly tried feeding one horse upon corn, and his mate upon an equal measure of corn and cob ground together, and has universally found the measure of cob meal equal to the measure of corn; and that one bushel of corn ground with the cob, would make two bushels of cob meal.

D would like to have his corn ground, but thinks there is no nutriment in cob.

E says corn should never be fed to any kind of stock without being ground with the cob, as there can be no question as to its nutritive properties.

And in addition, nature seems to have designed the cob as a material aid to digestion. That the stomach of every animal except that of the fowl, freely fed upon clear corn, will pass more or less undigested, which is not the case with animals fed upon cob meal.

F thinks there is but little gained by feeding crushed corn; that it should be thoroughly and finely ground, as all know coarse grains taken into the stomach of cattle, especially, pass undigested.

G remarked, that he had been accustomed to grind his corn for many years upon an old fashioned bark mill, where the grains were not all broken, but says, I have been able in no one instance to discover undigested particles to pass the animal, with prudent and regular feeding, except where the enamel or coating of the grain was unbroken. The gastric fluid of the stomach seeming insufficient to penetrate the unbroken coating of common grains, or to sufficiently incorporate itself with fine meal in time to prevent acidity, where it is taken freely into the stomach without proper admixture of saliva, as will be common where fine meal is fed to hungry animals.

H said, two years ago he ground all his corn upon a bark mill, and then reground upon burr stone. But the past winter, for want of time, was compelled to omit re-grinding, and was well assured from close observation, that he was the gainer by it.

S. & M.

WORK IN THE GARDEN.

FEBRUARY.

The work for this month does not amount to a great deal, but however little we will endeavor to point it out.

SOWING SEEDS.

Sow the following seeds in your frames,—as Cabbage seed, both early and late sorts, *Tomatoes*, *Egg-plant*, *Lettuce*, *Cauliflower* and *Celery*, to raise plants for the early crops.

By sowing *Radish* seed thinly through your hot-beds you may secure an early supply of nice crisp radishes for your table, without their injuriously interfering with the other plants.

SOWING CELERY SEED IN OPEN BORDER.

As soon as the frost is entirely out of the ground, prepare a place on a warm border facing the South or South-east. Manure it liberally, dig the manure in well, rake the ground fine, and sow celery seed to raise plants for a crop to succeed that grown from the plants grown in the hot-bed.

SPINACH.

When the frost is out of the ground prepare a bed by manuring, digging, and raking, and drill in a few rows of spinach for early use—the drills should be 1 inch deep, 12 inches apart.

CARROTS, PARSNIPS, BEETS.

So soon as the frost is out of the ground, manure a bed either with rotten dung or guano; dig the manure in, rake finely, and drill in a few rows of these for early use.

PEAS.

If you wish to secure early green peas, immediately after the disappearance of frost, when the ground can be dug and got into good condition, manure, dig it in, and rake the soil fine, and drill in a few rows of early peas; plant others every two weeks to secure a continuous supply.

GRAPEVINES, RASPBERRIES.

These should be pruned, tied up, and receive a dressing of manure to be lightly dug in. Rotten dung or guano would be best. A top-dressing of ashes, bone-dust and plaster, will also be found serviceable.

FLOWERING SHRUBS.

As soon after the frost is out of the ground, and it can be dug, all the hardy flowering shrubs should be set out. From our own experience it is, we think, best to give the ground a good dose of rotten horse dung, or guano, as it encourages the roots to strike promptly and improves the bloom. When we say a good dose, we don't mean a heavy one, but one sufficient to afford the shrubs food. If top-dressed with a mixture of 3 parts ashes and 1 part plaster, put on with a liberal hand, good will result from it.

Need we urge that every farmer and planter's lawn, garden, and lane, should have its flowering shrubs and its shade trees? We think not, as every father and husband will say that the proposition is too obvious to need remark.

FLORAL DEPARTMENT.

Prepared for the American Farmer by Jno. Feast, Florist, Lexington street.

In the course of this month plants will assume a different appearance, coming more in bloom, and enlivening the beauty of the house, both by the new foliage and flowers. As the plants advance in growth, they should be trimmed in a proper shape, as the appearance of a plant adds to its beauty as much as the flower. Those that need training, by shortening the shoots, should be done some time before the period of flowering, so as to make a fine head—the lower and more bushy a plant is cultivated, the better specimen it is considered; and there is scarcely any tribe of plants but what can be improved by this operation, which is too much neglected by most cultivators, who leave them to run up tall, naked at the bottom, and unsightly in or out of the house; such plants should be cut down in the spring, so that they will make a vigorous growth, and about midsummer, top them again, to throw out lateral branches—in this way, fine specimens are obtained, which are an ornament at all times, and creditable to those having charge of a collection.

Camellias will now begin to grow, and will require greater supplies of water, with plenty of air; and if the sun is too powerful, shade the glass with sizing, to break the rays, which are injurious to the flowers; syringe frequently every fine morning. *Inarching* may be continued if a young stock is wanted, and grafting, which makes the best plants. Put in cuttings for stocks.

Pelargoniums attend to carefully—such as are growing too long, shorten the shoots, spread them out and tie them down as low as possible; keep them clean, and occasionally turn the plants round to give them an upright position—have them near the glass, and if any require re-potting, give them the last shift before flowering.

Japan Lillies, re-pot in good size pots—if flowered in pots, give them a good rich loam and plenty of coarse drainage; be careful and not give too much water at first, till they are beginning to grow.

Achemenes, *Gloxinias* and *Gesneras* that have not been re-potted, bring forward for a succession of bloom. and give them a little bottom peat if convenient.

Cactuses will require more water as the season advances; re-pot all that are wanting.

Dahlias that are esteemed highly and required early, re-pot the roots in large pots; keep them moderately warm, and when the young growth is made propagate by cuttings.

Heath, *Eparises*, and most Cape plants, of which many will now be in flower, give them air on fine days, and propagate from cuttings such as are wanted for increasing the stock.

Seeds of Annuals and other plants sow now in pots or houses for a succession of bloom in the borders during summer.

Hardy Plants kept in cold frames, keep clean and give plenty of air on fine days to guard against the damp. Keep them rather dry until they show signs of growth, and the weather becomes more moderate.

AGRICULTURAL EXHIBITION.—The following brief allusion to a late Exhibition in England, may interest some of our farmers:

This week the Smithfield Cattle Club have had their annual show at Baker street. There has been no falling off either in quantity or quality. There is an excellent show of Devons. The Earl of Leicester carried off the palm for the short horns, gaining the gold medal. The Duke of Rutland exhibits a four year old ox, considered the most perfect animal ever shown at Baker street; it is needless to say it gained a prize. There is a very good show of Herefords; Mr. Heath, of Ludhampall, obtaining the prize. The show of sheep is particularly good. The Duke of Richmond obtains the first prize for Southdowns. In crosses with Southdowns and Cotswold, Mr. Druce takes the prize. The pigs are good also, one pen of seventeen weeks old being the finest ever exhibited. Prince Albert is an exhibitor, and obtains two or three second class medals. Among the agricultural implements the principal novelty is a self-holding lever plough and general cultivator, invented by Mr. Raydon, and manufactured by Messrs. Pleaty & Ram, Newhall. It is an application of steam power to the cultivation of land. It does the work by simple but ingenious contrivances, and the attendant following in the rear has perfect command over the means of working. The plough makes very good work. There is considerable saving in horse power; they require no holding, but may be adapted to horse power as well as steam. An important alteration in reaping machines is exhibited by Messrs. Burgess & Key. It consists of the substitution of the Archimedian lever on the platform of the reaper, which delivers the corn and entirely avoids the necessity for hand labor. There are many other articles worthy of notice.

SOUTHERN CENTRAL AGRICULTURAL SOCIETY OF GEORGIA.—The following gentlemen constitute the Board for 1855:

President—Hon. THOS. STOCKS, Greensboro', Ga.
Vice Presidents—Hon. M. A. COOPER, Elowah, Cass co., Ga.; Col. P. M. NIGHTINGALE, Albany, Ga.

EXECUTIVE COMMITTEE.—Col. J. M. DAVIDSON, Woodville; Wm. J. M. ERE, Esq., of Augusta; B. A. SORSBY, Esq., Columbus; Col. J. S. THOMAS, Milledgeville; Col. Aug. S. JONES, Savannah; Maj. J. S. ROWLAND, Cartersville; Dr. Jno. S. LINTON, Athens; Richard PETERS, Esq., Atlanta; Wm. M. D'ANTIGNAC, Esq. Treasurer, Augusta, Ga.; Dr. Jas. CAMAK, Secretary, Athens, Ga.

NORTH CAROLINA STATE AGRICULTURAL SOCIETY.—At the annual meeting of this Society, the following gentlemen were elected officers for the present year:

Hon. THOMAS RUFFIN, of Alamance, President; Hon. A. W. Venable, first Vice President; Doct. Wm. R. Holt, second Vice President; Doct. E. A. Crudup, third Vice President; R. R. Bridges, fourth Vice President; Doct. J. F. Tompkins, Recording Secretary; T. J. Lemay, Corresponding Secretary; J. F. Hutchins, Treasurer.

Executive Committee—Dr. E. A. Crudup, Wm. A. Eaton, W. W. Whitaker, J. F. Taylor, J. C. McRae, Wm. R. Pool, S. W. Whiting, W. D. Cooke, R. A. Hamilton, D. McDaniel, W. H. Jones, Needham Price, J. F. Jordan and J. C. Partridge.

Committee of Arrangements—Dr. E. A. Crudup, chairman, W. A. Eaton, W. W. Whitaker, Wm. R. Pool, Needham Price, S. W. Whiting, W. H. Jones, J. F. Jordan, J. C. McRae, and J. F. Taylor.

Gen. J. B. Littlejohn, chief marshal; S. Hayes, 1st assistant; Col. H. J. B. Clark, 2d do.; J. Averitt, Jr. 3d, do.; Col. H. T. Clark, 4th do.; J. H. Yarbrough, 5th do.

On motion of Henry Elliot, Esq., a committee, consisting of Henry Elliott, Hon. Thomas Ruffin, Hon. K. Rayner, Dr. Wm. R. Holt, and H. K. Burgwyn, was appointed to prepare a memorial to the Legislature upon the subject of Dogs, which was presented by them, and adopted, and on motion of Dr. Holt, 200 copies were ordered to be printed, and a committee consisting of J. H. Houghton, K. Rayner, W. W. Whitaker and R. H. Smith, appointed to present the same to the Legislature.

Messrs. H. K. Burgwyn and J. S. Bridges were appointed a committee to confer with other State Agricultural Societies, as to the best time of holding the annual fairs in future.

On motion of Dr. E. A. Crudup, a committee was ordered to be appointed to revise the Constitution. The President appointed Dr. Crudup, J. H. Houghton, J. S. Dancy, Dr. W. R. Holt, and J. E. Tompkins.

Mr. Collins moved that the Secretary send a copy of Mr. Rayner's Address to each member of the Society, which was carried.

On motion, the President appointed the following gentlemen to attend as delegates the next annual meeting of the United States Agricultural Society in Washington City: Hon. Thomas Ruffin, Hon. K. Rayner, H. K. Burgwyn, Lewis Thompson—and on motion of Col. Clark, of Warren, the name of the President of the Society was added to the list.

OFFICERS OF THE PHILADELPHIA SOCIETY FOR PROMOTING AGRICULTURE, for 1855.—At the Annual Meeting of the Society, held on Wednesday last, the following gentlemen were elected officers of the Society, for 1855:

President—DAVID LANDRETH.

Vice-Presidents—ANTHONY T. NEWBOLD, AARON CLEMENT.

Corresponding Secretary—SIDNEY GEORGE FISHER.

Recording Secretary—ALFRED L. KENNEDY, M. D.

Assistant do.—PHILIP R. FREAS.

Treasurer—GEORGE BRIGHT.

Executive Committee—DENNIS KELLY, A. T. NEWBOLD, SAMUEL WILLIAMS, JOHN LARDNER, JOHN M'GOWAN, A. S. ROBERTS.

Never keep animals on short allowance—if you starve them, they will surely starve you.

AGRICULTURAL AND MECHANICAL ASSOCIATION OF WASHINGTON COUNTY, Md.—The annual meeting of this society for the election of officers, was held in Hagerstown, Washington county, Md., on Saturday. The following officers were selected for the ensuing year:

President—D. Brumbaugh.

Vice Presidents—Samuel E. Stonebraker, John Snively, Geo. S. Kennedy, Fred'k Rohrer, Wm. Loughridge, Geo. C. Rohrer, Geo. Thomas, Henry Eyerly, Dr. W. A. Riddlemoser, Dr. Thos. Maddox, and W. L. Berry.

Executive Committee—Dr. F. Kennedy, John Tice, Jas. Coudy, Jno. Garver, Jos. Ground, Daniel Rohrer, John Kendle, David Cushwa, A. R. Snively, Daniel Startzman, John W. Breathed, and Andrew Rench.

Board of Managers—Jacob Fiery, Martin Startzman, L. McKee, P. B. Small, John H. Heyser, and Wm. Hall.

Treasurer—H. K. Tice.

Recording Secretary—Ed. M. Mobley.

Corresponding Secretary—Thos. G. Robertson.

MORE GUANO DISCOVERED.—A letter from Guayaquil, dated 9th December, says:—


A seaman applied to M. P. Game, Esq., U. S. Consul—some days since—for relief, stating that he deserted a whaleship; and, on his passage to this port, landed on the island La Plata. During his search for bird's eggs, he found what he supposed to be guano. Mr. Game chartered a vessel and proceeded to the island, where he found the guano to exist, according to his estimate, to the amount of five hundred thousand tons. I understand the anchorage is good, the water smooth, and that vessels may lay in ten fathoms, within 40 yards of the base of the cliff. He has also discovered a large quantity to exist on another island. In fact the discovery appears of such importance that it causes a great excitement.

U. S. AGRICULTURAL SOCIETY.—The Third Annual meeting of the United States Agricultural Society will be held at Washington, D. C., on Wednesday, February 28, 1855. Business of importance will come before the meeting. A new election of Officers is to be made, in which it is desirable that every State and Territory should be represented. Lectures and interesting discussions are expected on subjects pertaining to the objects of the Association, by distinguished scientific, and practical Agriculturists.

The various Agricultural Societies of the country are respectfully requested to send Delegates to this meeting; and all gentlemen who are interested in the welfare of American Agriculture, who would promote a more cordial spirit of intercourse between the different sections of our land, and who would elevate this most important pursuit to a position of greater usefulness and honor, are also invited to be present on this occasion.

MARSHALL P. WILDER, President.

**WHEAT AT CHICAGO—SPECULATORS BUYING LARGE-
LY.**—We understand that there is a large number of persons buying wheat in this market for Michigan, New York, Pennsylvania and the eastern States, and that the demand is rapidly increasing. It is not probable, under such circumstances, that any considerable surplus can accumulate in our warehouses between this and the opening of navigation next spring. This opinion is becoming very prevalent, and gives the price of wheat an advancing tendency.—*Chicago Tribune, Dec. 29.*

 We regret that we have not received in time for this No., an expected communication from the President of "the Maryland State Agricultural Society," Jams T. Earle, Esq. Mr. Earle has taken great pains to get the most reliable information from every county in the State, as to the deficiency in the corn crop of the past year. His returns are nearly complete, and we are authorised to say that they indicate a deficiency in the crop of the whole State, which will not fall short of five millions of bushels.

THE HORTICULTURIST, and *Journal of Rural Art and Rural Taste*—the journal of the late lamented Downing, commenced a new volume in January. This beautiful periodical is now edited and conducted by P. Barry, Esq., and we think fully sustains the high character it attained under the management of Mr. Downing. It is a work creditable to the country, and we are truly anxious to see it disseminated far and wide. The subscription price is \$2 per annum, payable in advance. Specimen numbers can be seen at the office of the American Farmer, where subscriptions will be received.

BENEFIT FROM SUBSOIL PLOUGHING.

The late Mr. Phinney, who was acknowledged to be one of the best farmers in Massachusetts, bore the following testimony in favor of the good effects resulting from subsoiling. We have great confidence in the efficacy of subsoiling, but believe that it is not adapted to wet land. Such lands should be first drained, and left sufficiently long for the escape of the superabundant water, before being subjected to this operation. Lands with a surface, and subsoil, not surcharged with water, we are confident would be greatly improved in their productive powers by being subsoiled. With this brief introduction we will give the reader an opportunity of reading what Mr. Phinney said upon the subject:

"My potato crop this season fully demonstrated to me the great utility of the subsoil plough. Early in June I planted a field of four acres of my hard stony upland with potatoes—half the field with *Rohans*, and half with *Long red potatoes*. The soil a thin vegetable mould upon a gravelly subsoil. The same field I planted a few years ago with potatoes, and owing to the hard crust beneath this thin mould which the roots could not penetrate, the dry weather in August killed the tops, and my crop hardly paid the expense of digging. The last spring I spread upon the field ten loads of manure from my hog-styes, being mostly composed of peat mud, to the acre. The drills were made by the common plough, drawn by one horse, and followed by two yoke of oxen, which effectually broke the hard crust, and loosened the earth from 12 to 15 inches below the surface, and though the drought was very severe, the tops remained perfectly green and thrifty through the season. At harvesting I dug 270 bushels of *Rohans* from the acre. Taking into view the hard dry condition of the land, the light dressing of manure, the almost unprecedented drought, and the entire failure of the crop in a former year, I fully believe the crop of this year, (1841) though but a moderate one, is owing mainly to the use of the subsoil plough. This was made more apparent, from the fact, that a few short rows at one corner of the field, where the subsoil plough was not used, yielding but about half the quantity produced on an equal space on another parts of the field."

ONE PAIR OF PIGS, according to Allnutt, will increase in six years to one hundred and nineteen thousand one hundred and sixty-nine—taking the increase at fourteen times per annum.—A pair of sheep in the same time would be but sixty-four.

COUGH IN HORSES.—It is said that small twigs of cedar chopped fine and mixed with their grain, will cure a cough in horses, and that this has been used with complete success.

BALTIMORE MARKET—JANUARY 31.

By the arrival of the steamer last week, indications were given of a termination of the war in Europe, and that Flour had declined somewhat in consequence, which had some effect on our market—the arrival, however, yesterday, of the steamer Africa, announces that flour had recovered the lost ground of the previous week, and that Cotton was also more firm in consequence of the advices from this country of the appearance of the crops. There is nothing more definite as to the termination of the war, tho' both parties to it seem very anxious to escape from it; and it is intimated that the Russian Czar had agreed to accept any terms that would not require a sacrifice of his fleet in the Baltic, or the alienation of any portion of his territory. From indications heretofore received from both parties to this war, we had little expectation of this result, and certainly after the prowess evinced by the Czar, we did not suppose that he would have backed out of his pretensions, so boldly avowed as the cause of his taking up arms. Whether or not he is in earnest, or his object is to gain more time, must now soon be decided.

Flour.—Howard st. sales this day at \$8.50; City Mills \$8.37.—Wheat, red 1.95a200, white 200a205. Corn, yellow 87a89, white 85, mixed 82—Oats, Md. and Va. 50a52; Pa. 52a54; Timothy Seed, \$31; Rye, Pa. 125a128; Md. and Va. 110a120—Clover Seed \$7.75a8, according to quantity and quality. Whiskey, bbls. 34 $\frac{1}{2}$ a35—Molasses, N. O. 27 $\frac{1}{2}$ a28—Sugar, N. O., new crop, \$5.05a5.80—Beans \$2a2.25 per bushel; Peas, \$2.25 per bag of 2 bushels—Hay \$20a21 per ton, for baled, \$18a20 for loose—Straw \$14a15 for Rye, and \$10a11 for wheat—Sp. Turpentine 48a49; Tar 2.75a3; Pitch 2.50; com. Rosin 1.87, No. 2, \$2, and No. 1, \$2.50a3—American Linseed Oil 63a85—Plaster, \$3.25 per ton, ground \$1.25a1.37 per bbl.—Rice 3 $\frac{1}{2}$ to 4 $\frac{1}{2}$ —Wool, little done, unwashed 15a16c., pulled 19a20, tub washed 22a25, com fleece 23a26, and fine fleece 23a26c.—Tobacco, receipts very small; we quote nominally, infer to com. Md. 5.50a6; good com. to Md. 6.25a6.75; and good to fine brown \$7a9.

Guano.—Prices of Peruvian are without change, and a demand for spring crops is now being made—there has been a holding back of orders, we believe, in expectation of a reduction of prices by the Peruvian agents; but we have reason to believe that there is no present likelihood of any change in their rates—the supply is large, and ample for the season, but there are shipments being made to Europe from this port and New York. For the prices and terms of the Agents, we refer to our former advertisement in the January and preceeding Nos. Of Mexican Guano, there is also a good supply, and the demand is increasing for this variety—prices range from \$22 to \$30 per ton, according to quality.

ATTENTION FARMERS!

WE call your attention to the following extracts of letters we have received, from some of the most scientific farmers of this country, upon the results from application of C. B. DeBurg's SUPER PHOSPHATE OF LIME. They all go to prove that it is the greatest fertilizer known to the agricultural world.

Wm. C. Wilson, Esq., of Baltimore county, says:—"Two-thirds of a gill, applied to each hill of corn at planting time, gave an increase estimated at three barrels per acre; four other fertilizing agents were tried on this field of 16 acres, and I estimated the action of the Super Phosphate as decidedly superior to the other applications."

JNO. B. ARMSTRONG, of Marriottsville, says:—"I applied it in the hill at the rate of 300 pounds per acre, on land entirely bare of vegetation, and no part of my corn crop would compete with this piece in luxuriance of growth. The rest of my land had been limed, and 300 pounds Peruvian Guano per acre applied in the Spring, and plowed in."

DR. ALLENDER, of Little Gunpowder, says:—"I do not consider it superior to Guano. Its advantage lies in our ability to use it as a top dressing with less liability to waste, than guano, and its greater adaptation to spring crops."

ANDREW ELLICOTT, of Howard Co. says:—"I consider it fully equal to the best Peruvian Guano, which I used at the same time, and at less cost per acre for the application."

JOHN FREEST, gardener for J. Howard McHenry, says:—"DeBurg's Super Phosphate of Lime is superior to anything I have ever seen. It retains the moisture better than any other kind of manure. The corn, turnips, beets, cabbages, &c. grew to a great size, notwithstanding the severe drought."

Prof. DeBurg, having improved upon the quality of his Super Phosphate of Lime, it will contain this season as much ammonia, and nearly three times as much fertilizing properties (Phosphate of Lime,) as the best Peruvian Guano.

Farmers seeking manures for their Spring crops, should examine the analysis, and enquire of the many hundreds who have used it, as to its efficiency. We have every lot we receive from the manufactory analyzed by Dr. David Stewart, chemist for the Maryland State Agricultural Society, which is a security to the farmer, and a guarantee to us of its quality.

Price, \$43 per ton of 2000 pounds. Orders will be received at the office of the American Farmer.

Buy none but DeBURG'S Super Phosphate of Lime, and to secure the genuine article, call on

J. J. & F. TURNER,
No. 42 Pratt Street, Baltimore.

febl-3t

EVERGREEN NURSERY.

Woodbury, New Jersey.



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AN extensive assortment of Evergreen and other Ornamental Trees, Shrubby, &c. including the rarest and most desirable kinds, of sizes, suitable for Nursery stock, or permanent plantings, in Lawns, Cemeteries, Public Grounds, &c. For Catalogues or further information, apply to

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ply to
2d mod. 3t

THE subscribers having established in connection with their extensive Agricultural and Implement Warehouse, Philadelphia, a SEED FARM, for growing all kinds of Vegetable Seeds, for either FIELD or GARDEN, are prepared to execute orders for Fresh and Genuine Seeds, either by wholesale or retail. Dealers supplied at a liberal discount.

Also for sale, fresh CLOVER, TIMOTHY, HERD, RYE Grass, Kentucky Blue Grass, English Lawn Grass, &c. for Parks and Lawns.

FLOWER SEEDS of the choicest kinds. Twenty varieties neatly put up in fancy boxes, for \$1.

Implement, Nursery or Seed Catalogues furnished on application.

PASCALL, MORRIS & CO.
Agricultural Warehouse and Seed Store,
N. E. Cor. 7th and Market-st. Philad.

feb 1-3t

Allen's Improved Premium Mower and Reaper.

WARRANTED to cut grain or grass equal to the best Scythe or Cradle. This machine has taken first premium in every instance where it has been brought in competition with other machines. I received the first premium and Silver Medal at the Pennsylvania State Fair of 1854. Manufactured and for sale by

C. B. ROGERS,
29 Market-st. Philadelphia.

feb 1-3t

CO-PARTNERSHIP.—The undersigned have entered into Co-Partnership, dating 23d ult., under the firm of **RICE & NORRIS**, for the purpose of conducting the **AGRICULTURAL IMPLEMENT, SEED AND MACHINE BUSINESS**, and have taken the Warehouse on the **SOUTHWEST CORNER OF LIGHT AND BALDERSTON STS.**, where they respectfully invite purchasers to call and examine their stock.

CHARLES RICE.
THOMAS NORRIS.

febl-1t

Pure Bred Animals at Private Sale.

Mount Fordham, Westchester Co., 11 miles from City Hall, N. York, by Harlem Railroad.

HAVING completed the sale of Animals advertised in catalogue of 1854 (excepting Short Horned Bull "Balco" (9918) at prices highly remunerative, for which patronage I feel grateful, not only to the public of almost every State in the Union, but to the Canadian, Cuban, and the Sandwich Islands. I will issue on or about the 1st of March, catalogue for 1855 of Short Horned Bulls, and Bull Calves, (some of which belong to my friend and part associate Mr. N. J. Becar,) North Devon Bulls and Bull Calves, Southdown Rams, Berkshire, Suffolk and Essex Swine of almost all ages, and both sex, now ready for delivery. This catalogue will be illustrated with portraits of my Prize Animals. Most of the original animals in my breeding establishment were selected by me in person in England, strictly in reference to quality, in my judgment best adapted to the use of this country.

January 24th, 1855.

[febl-1t]

L. G. MORRIS.

Davy's Devon Herd Book—2d Vol.

JUST PUBLISHED, and now ready for distribution, at the N. Y. State Agricultural Rooms, Albany. By enclosing to B. P. JONSON, (Corresponding Sec'y) \$1.50, he will forward the Book to any address desired. The liberality in registering the *Animals of American Breeders*, giving them equal advantages with those of the location where the breed originated, deserves the good feeling and patronage of this country.

January 25th, 1855.

febl-1t

CRANBERRY PLANTS.—The kind most known and best adapted to all kinds of soil is the bell or egg-shaped variety. They are great bearers and keep a long time if properly gathered. They can be raised on poor and swampy land where nothing else will grow, and often produce from 1 to 300 bushels per acre. Circulars relating to culture, price, &c., will be forwarded gratis to applicants. For sale by

F. TROWBRIDGE, New Haven, Ct.
Dealer in Trees, Plants, &c.

febl-1t

ALDERNEY BULL FOR SALE.—He is 3½ years old, large size, and is from the celebrated stock of E. L. Colt, Esq. The owner having no use for him, will sell him at \$100, deliverable in Baltimore. Also, several good Milch Cows, of mixed or common breed. Apply at this Office.

febl-1t

Piano Fortes.

THE subscriber has always on hand the largest assortment of Pianos in the city, at prices varying from \$200 to \$500, from the celebrated Factories of Chickering & Sons, Nims & Clark, Rosenkrantz, and other makers, with full iron frames. Those who desire a very superior Piano, and at a low price, are invited to examine them.

Orders from the country will be as fully and faithfully attended to as if the parties were personally present.

F. D. BENTEN,
181 Baltimore Street, and
Luge Wareroom, 84 Fayette-st. near Charles.

feb 1

POUDRETTE, &c.

PPOUDRETTE, in barrels and bulk—Pulverized Bituminous Coal and Bone Black. Also, patent Machines for paring Apples, Potatoes, &c. at \$1.50 each. Powders for sharpening Razors, in boxes, at 35 cents per box.

feb 1-1t

WILLIAM CHILD,
78 South Street, Bowly's Wharf.

SUPER PHOSPHATE OF LIME, or CHEMICAL MANURE, in bags of 150 lbs. each, manufactured and sold by

WM. PATTERSON, Davidson St. Wharf,
Newark, New Jersey.

Agents, F. P. MALCOLM & Co., Bowly's Wharf, are the Baltimore

aug 1-tf

Important to Purchasers of Lumber.

THE UNDERSIGNED having superior advantages in the purchase of LUMBER, can sell Shingles, Laths, Cuttings, Pickets, &c. at low prices; from the wharf, foot of McElderry's Dock, & opposite State Tobacco Warehouse, No. 1

aug 1-lyr

ROBERT HOOPER.

BLACK HAWK TICONDEROGA,



WILL make a Spring Season at Govanstown, Baltimore Co., about 4 miles from Baltimore, on the York Road, commencing on 1st of March. He will be permanently at that place, as no other engagements will be made for him elsewhere. This Horse took the first premium at the Maryland State Show in 1852 and for 1853, in the class of premium animals. He also, took the first premium at the Virginia State Show in November 1853, and at Petersburg in 1859. At these shows he was pronounced by Judges the finest Horse ever presented in these States for the practical purposes of life—thus establishing his character over any horse in the Middle States. His owner is ready to show him or his stock against any horse that can be produced.

FRANKLIN FELTON, Proprietor.

TERMS, for Ticonderoga, for the season, \$40. [For particulars, see hand bills.]

MR. FELTON—Dear Sir:—I take this opportunity of expressing my opinion in regard to Black Hawk Ticonderoga. He has more good qualities than I ever saw blended in any one horse; and what is most essential in a Stock Horse, he possesses a wonderful faculty of transmitting all of his good qualities to his progeny. Black Hawk for speed and bottom is unsurpassed by any Stock Horse in my knowledge. I had the pleasure of seeing Ticonderoga trot a number of times on the ice, and I consider him the handsomest trotting horse that I ever saw. I have been in the horse business for 15 years, and have taken great pains to ascertain what blood was the best, and I most cheerfully state without fear of contradiction, that he is the best blooded stud in America. I would confidently recommend him to all who wish to improve their stock of horses.

E. W. CALKINS,
Lake House, Bridgeport, Vt.

"MORGAN HORSES.—The improvement of our breeds of Horses is an object which deserves attention. Of the whole number of horses reared in this country, the proportion of good ones is very small; hence the remark is frequently made that the rearing of horses is unprofitable. The origin of our most valuable horses is not only a subject of interest to the curious, but it is also one of great importance; and a course which has produced improvement may be safely relied upon for the continuance of similar results.

The origin of the valuable stock of horses called Morgan, has been the subject of some controversy in this State. Many have supposed they were of Canadian descent. Some persons, having horses of Canadian descent, advertised them as

Morgan horses, which is very derogatory to the Morgan blood. The stock of Morgan horses is so universally known and admitted throughout New England, that it is hardly necessary to repeat their merits. For a seller of horses, it is only necessary to establish the fact that his horses are of the Morgan blood, and he meets with a ready sale at good prices; and the purchasers are more than satisfied. They excel in great endurance, carrying weight a long distance—and as roadsters, they excel all other horses in this or any other country—are full of noble and generous spirits, with such docility of temper that the most timid can drive them; but if put to their mettle, they are a full hand for the best driver. It has been asserted, and cannot with propriety be denied, that there has never been a stock of horses in New England which has proved so generally useful as the Morgan Stock of the original Morgan Horse, raised by Justin Morgan, of West Springfield, Mass., in 1793, and taken to Randolph, Vt., in the fall of 1795—sired by the Briton, or Beautiful Bay, raised by Gen. James DeLancy of Long Island, New York, and sired by his imported English horse Traveller, (known as Morton's Traveller,) who traces directly back to the Godolphin Arabian. The Dam of the original Morgan was of the Wild Air Breed, sired by the Diamond, who was raised in East Hartford, Conn. Dimond, who was sired by the Wild Air, known as the Church Horse. The Church Horse was sired by the Wild Air, imported from England by Gen. DeLancy, and afterwards taken back to England. He was a grandson of the Godolphin Arabian. The Dam of the Church Horse was an imported Wild Air Mare, owned by Capt. Sa'l Burt, of Springfield, Mass.—*Maine Far.*

PAGE'S PORTABLE SAW MILL AND STEAM ENGINE.



THE SUBSCRIBERS beg leave to inform their customers and the public generally, that they continue to manufacture their celebrated **PATENT PORTABLE SAW MILLS**, of three classes or sizes. They also manufacture **STEAM POWERS** of all sizes and kinds—all made of the best materials, and by the most skilful and experienced workmen.

They have on hand for sale the **LOCOMOTIVE STEAM ENGINE** and **SAW MILL**, which they exhibited at the Maryland State Agricultural Society's

Fair, in October last, and which was awarded the \$100 premium by the Judges of that distinguished Association. It is so constructed as to be perfectly portable in the broadest sense of the word. The boiler is fixed on wheels, and can be transported at pleasure over any road, through woods, or over any other place where logs can be hauled or a team travel. From the apt construction of the wheels, they are calculated for making short curves, and therefore adapted to being driven through woods

from one point to another. From the height of the wheels, stumps will present no obstruction to their passage; so that when the timber may be exhausted in one part of a forest, there is nothing to do but to hitch in the horses and haul the machinery to another where the supply may be plentiful.

The cut on the opposite page gives a fair representation of the machine.

To show the character of the subscribers' Saw Mills, they insert the following certificate:

NEAR SUMMITVILLE, Alleghany Co., Md. }
December, 1st, 1854. }

Messrs. George Page & Co., Baltimore, Md.

Gentlemen:—On the 27th of March last we procured from you a 20 horse steam power, second class Saw Mill, and all the necessary appendages; which machinery we have had in operation for some six or seven months, and as we have had ample time to test its power and capacity, we deem it a duty which we owe your establishment as well as the public, to give our opinion of the utility of your Saw Mill; and speaking as we do, from practical experience, uninfluenced by interest, what we may say will be received by the public, for whose benefit we give this statement, in a just spirit of appreciation. In the working of your Saw Mill we have not found the least difficulty.—By keeping the saw properly filed, and set at proper intervals, it has operated without heating, or other impediment, cutting a true line with nicety and precision, and doing it with a speed and rapidity astonishing to every one who has witnessed the working of our mill, who was not previously acquainted with the vast operative power of your Improved Patent Portable Circular Saw Mill. With the driving power mentioned above, [our customary day's work is from 6,000 to 8,000 feet of lumber; and upon occasions of exigency, we have sawed for several successive days, at the rate of 10,000 feet of Bill Stuff, per day, which is indeed, the strongest proof that could be adduced of the superior excellence and vast powers of your saw mill. We may assume as an incontrovertible fact that it can saw as fast as any number of hands who can be conveniently occupied, can handle the lumber sawed by it.

The arrangement of the Sawdust Elevator, which is somewhat different from those usually constructed by you, and which you contrived to suit our peculiar locality, we look upon as one of the most economical arrangements that has ever fallen under our observation. We risk nothing in saying that it has saved us one dollar a day in the removal of the sawdust, dispensing as it does, with the services of at least one hand.

Your Improved Patent Ratchet Headblocks, with which our saw mill is adjusted, we look upon as a great improvement over the old screw headblocks heretofore used, as the sawyer, by its means is enabled to set the log without crossing the carriage.—In fact it enables one to work the mill with one hand less than with the screw head blocks, an item of saving this in the present high tariff of wages, in the course of a year, of considerable moment independent of the superior ease and convenience with which the mill, through its agency is worked.

In a word, gentlemen, we are not only pleased, but highly gratified with the mill, and all other of the machinery which you built for us. And we but express the honest conviction of our mind, when we say that the landed proprietors of our

country owe your senior partner, Mr. Geo. Page, a deep debt of gratitude for his invention of the Circular Saw Mill, as it has enabled thousands of them to convert their forests into merchantable lumber, thereby making them immense sources of profit, which, before his invention, were so many burthens, yielding nothing, and subjecting the owners to annual taxation.

Wishing you the success so justly due to your industry, enterprise, skill and usefulness, we remain, gentlemen,

Your obedient servants,
SNIVELY & WOODWARD.

The subscribers also manufacture SMOKE STACKS; MACHINERY FOR SAWING LATHS OUT OF SLABS;—TIMBER WHEELS, for hauling logs to the mill; LUMBER CARS, for conveying lumber from the mill; MACHINES FOR GUMMING SAWS; MACHINES FOR RAISING LOGS OUT OF THE WATER; GRIST MILLS, of all sizes; CORN and COB CRUSHERS; HORSE POWERS of different sizes, for driving a saw mill, or for farm purposes generally, and one peculiarly adapted to ginning cotton; POST-HOLE AUGERS; MANDRILLS for small saws, together with all the other machines as are usually made in such establishments as theirs.

Prices and Terms made known on personal application, or by letter, post paid.

On application by letter, or otherwise, a descriptive pamphlet will be furnished.

GEORGE PAGE & CO.,

North Schroeder, near Baltimore street,
Baltimore, Md.

jan1-3t

C. H. McCormick's Reaper and Mower.

THE undersigned has made arrangements with M. McCormick to act as his Agent for the sale of his Combined Reaper and Mower, now greatly improved, and would urge on all persons wanting a Machine of undoubted utility, and fully warranted—to send orders at once, to insure having them in season for harvest.

B. M. RHODES,
Baltimore Agricultural Warehouse,
141 West Pratt, near Light St.

febl-1t

Guano! Guano!

THE SUBSCRIBERS are now prepared to furnish farmers with their Spring supplies of this valuable fertilizer, and being the oldest house engaged in the trade, and possessing unsurpassed facilities, they guarantee to deliver it at rates much below those of any commission merchant, or self-styled "Agent" in the city. Their assortment consists of PERUVIAN GUANO of the very best quality, regularly imported by the Government Agent, and well secured in strong cotton bags.

MEXICAN GUANO, just imported in barque "Broozza"—marked by the Inspector 'double A,' and guaranteed superior to any other cargo now in market.

AFRICAN GUANO, containing both Phosphate and Ammonia, and therefore well adapted to worn-out lands.

DeBurg's Super Phosphate of Lime, direct from the manufacturer.

Ground Plaster, Clover, Timothy, Orchard and Milllet Seed.
W. WHITELOCK & Co.,
corner Gay and High sts.

febl-3m



SUFFOLK

AND

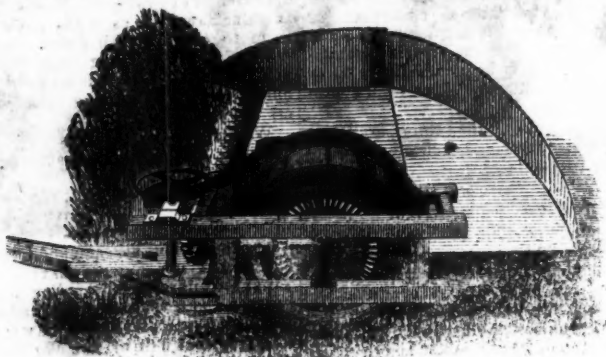
Essex Pigs.



PURE BRED, for Sale by EBEN WIGHT, Boston or B. F. KEYES, Dedham, Mass. ag 10,

GRANT'S PATENT GRAIN CRADLE AND FAN MILLS, for sale at their lowest retail prices, by E. WHITMAN & Co.
No. 63 Exchange Place, Baltimore.

BURRALL'S REAPER!



MANUFACTURED BY E. WHITMAN & CO., BALTIMORE, MD.,

Is the most *Substantial* and the most *Desirable* Reaper for the farmers of Maryland and Virginia.

FIFTY DOLLARS WAS AWARDED THIS REAPER

By a Committee of Twelve Men selected by the New York State Agricultural Society, and tested in a trial of eight days with nine other Reapers, comprising all the leading Reapers in this country, and the following is an extract from their report :

The Judges, in their report, say :—"T. D. Burrall's Machine performed its work in the most admirable manner; the gavels were well laid; the workmanship and materials were excellent; the circular apron for side delivery, the balance wheel, and an arrangement to ELEVATE the exterior edge of the apron, are valuable features." It has no extra wheels or pinions beyond what are simply necessary; no reel to beat down or waste the grain; no band-wheels, pulleys, belts, straps, or harness of any kind, to get out of order; nothing to hinder the cutting and securing the grain. *Simplicity, Strength, and Reliability* for doing the work all day and every day, have been the leading objects.

1. It cuts Grain of all kinds, in all conditions, without clogging, and may be worked by oxen or horses.

2. It cuts at any height required, by a few moments' change.

3. It discharges the grain in the rear, if preferred, like Hussey's, or at the side, like McCormick's, leaving room for the team and machine to pass again without treading on the grain. This change is made by means of an extra apron, (attached in a moment), from which the grain is laid in a better condition for drying and binding, and with much less labor to the raker than has ever been done before.

4. It has a Balance Wheel, which corrects the irregularity of the crank motion, and gives a quiet and uniform movement to the machine.

E. WHITMAN & Co., Baltimore, will continue the manufacture of this Valuable Reaper—and having the exclusive sale of them in Maryland and Virginia, all orders from these States must be directed to them. They will be manufactured in a more substantial manner than ever heretofore, and the prices will remain the same, viz :

PRICES :

Number 2 Reaper,	\$120.00
Number 4 Reaper,	\$130.00

A deduction of \$5 will be made if the side delivery is not furnished, and \$20 will be added to the above prices if forward wheels are furnished.

The expense of forward wheels may be saved by preparing a short axle and pole, using the front wheels of a light farm wagon.

Drafts, or Notes with interest added, and made payable at any Bank in this State or Virginia, will be received in payment, if the parties are known to be responsible.

E. WHITMAN & Co.,

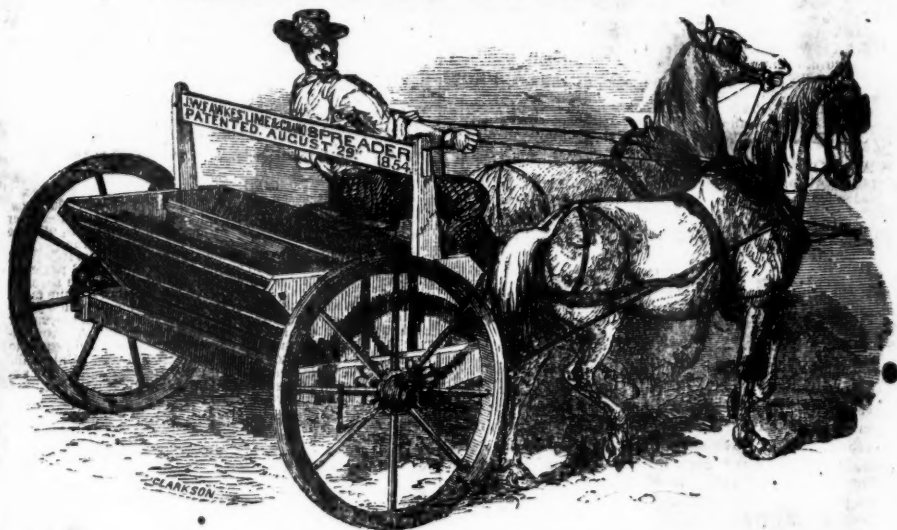
New Store, 63 Exchange Place; Old Stand, 55 Light Street,
BALTIMORE, Md.

Those in want of this Reaper will forward orders early, in order to receive them in time

\$100,000.**E. WHITMAN & CO. Baltimore, Md.**

HAVE on hand, and are now manufacturing the largest stock of AGRICULTURAL IMPLEMENTS AND MACHINERY ever offered in this country, amounting at the present time to one hundred thousand dollars, consisting of every variety of improved Implements and Machinery desired by the farmer and planter. Their long experience in business, and their facilities for manufacturing, will enable them to furnish farmers, planters, and the trade with goods on the most reasonable terms. The high standing of the Machinery and Implements manufactured by them, renders it unnecessary to say more.

Descriptive Catalogues will be furnished on application by mail, or otherwise, to
E. WHITMAN & CO., 63 Exchange Place, Baltimore, Md.

IMPORTANT NOTICE.**E. WHITMAN & CO.**

BALTIMORE, have made extensive arrangements to manufacture and supply the demand of the South and West, with one of the most Valuable Implements required by farmers who are improving their lands, viz:

J. W. Fawkes' Premium Lime and Guano Spreader,
PATENTED AUGUST 29th, 1854.

AS this Machine has become a great favorite of the farmers and planters of Pennsylvania, Maryland and Virginia, we deem it unnecessary to make a long statement in regard to its true merits. The Lime Spreader is made six feet wide in the clear, and will spread from 10 to 200 bushels to the acre, of lime, marl, compost, &c.—either wet or dry. The Guano Spreader is made 7 feet wide, in the clear, on the same principle as the lime spreader, will spread from 2 to 1000 lbs. to the acre, of guano, plaster, ashes, &c., wet or dry, and will grind up the hard lumps if managed according to printed directions accompanying each machine, and will spread as high as 40 bushels to the acre of lime; but is not as well calculated for lime as the above mentioned machine.

PREMIUMS AWARDED THIS MACHINE,
Are as follows:—In 1853, York co. Agricultural

Fair, first premium a Diploma; Virginia State Fair, first premium on Lime Spreader, \$30, on Guano Spreader, \$30.

In '54, Pennsylvania State Fair, on Lime Spreader \$5; Maryland State Fair, first premium on Lime Spreader, \$5; Union Fair of Virginia and N. Carolina first premium on Lime Spreader, \$20; on Guano Spreader, \$20; Virginia State Fair, first premium on Guano Spreader, \$30; on Lime Spreader, \$30; Rapahannock Agricultural Fair, first premium on Lime and Guano Spreader, \$10.

REFERENCE:

George Bennett, Chesapeake, Maryland; John L. Dufiel, Darnestown, Maryland; Addison & Howard, Alexandria, Va.; Rowlett, Hardy & Co. Petersburg, Va.; Geo. W. Baylor, Jas. W. Armstead, Joseph Blander, Committee on Lime and Guano Spreaders, at Va. State Fair, 1854. fe.1

SMAUEL SANDS.

NICHOLAS B. WORTHINGTON.

Farmers' and Planters' Agency.

THE undersigned, publishers of the "American Farmer," have made arrangements for purchasing for the Farmers and Planters of the U. S. every article which they may require on their estates. The experience for the last year or two, obtained by the senior of the firm, has convinced him that a great convenience is afforded to the agriculturist, by having an agency in this city to whom he can apply for the purchase of those things necessary for his farm operations, with the confidence that their wishes will be attended to with every regard to economy and justice—and being thus assured, with the desire to extend the usefulness of the agency, the present connexion has been formed—and we accordingly solicit from our friends and the public, their commissions. We will pay particular attention to the supply of

PERUVIAN GUANO, at the lowest rates of the Messrs. Barreda & Bro., the Agents of the Peruvian government, from whom we will always obtain our supplies direct—charging 21 commission for the purchase.

MEXICAN and AFRICAN GUANO, \$23 to \$30 per ton according to quality.

PLASTER PARIS, BONE DUST, SUPER PHOSPHATE, and other manures.

AGRICULTURAL IMPLEMENTS and MACHINERY of every description.

CLOVER, TIMOTHY & other SEEDS, TREES, PLANTS, &c.

Also, **LIVE STOCK**, of every description.

All orders will be thankfully received and promptly attended to.

SMAUEL SANDS.

NICH. B. WORTHINGTON.

Publishers American Farmer, 138 Baltimore St., Balt., Md.

Subscriptions received for the "FARMER" as above.

febl-1f

E. MILLS & BRO.**Sheet Iron Ware Establishment,
NO. 2 S. HOWARD STREET.**

We avail ourselves of this medium to announce to our friends and the public, that since the disastrous fire on Baltimore Street, which destroyed entire our extensive establishment with its varied stock, we have secured the large Warehouse, No. 2, South Howard Street, near Baltimore, and we beg to call the attention of FARMERS and others, to their splendid stock of Goods, comprising **TIN, JAPAN'D, BRITANNIA and SHEET IRON WARE**, of their own manufacture and imported. Their facilities enable them to make superior articles at the lowest market prices.

BATHING APPARATUS and Reservoirs for Dwellings, erected. All kinds of **FACTORY WORK, ROOFING, &c.** done well and prompt.

Orders from abroad executed with dispatch.—All favoring them with orders may rely upon having them filled with such goods as described.

STOVES of all kinds on hand, and made to order.

OFFICE OF INSPECTOR OF GUANO,
No. 11 Exchange Building,
Baltimore, Md.

Analysis of following cargoes of Guano imported during the month ending January 31, 1855:

1st.—PERUVIAN GUANO.

Valuable chiefly for its Phosphoric Acid and large quantity of Ammonia.

Jan. 4.	Archipelago,	15.67	per ct. of Ammonia,	marked A.
10.	Aumzone,	15.19	"	"
13.	Sheffield,	16.10	"	"
17.	Irene,	16.05	"	"
18.	St. Martin,	16.73	"	"
24.	Sarah H. Snow,	15.23	"	"
27.	Lima,	16.27	"	"

[All the above cargoes contain from 12 to 14 per cent. of Phosphoric Acid, equal to 26 to 30 per cent. of Bone Phosphate of Lime.]

2d.—The above cargoes, with the exception of the Lima's, contained from 5 to 30 tons more or less damaged, which were marked D.

3d.—MEXICAN GUANO.

Chiefly valuable for its Phosphoric Acid, and marked to indicate the quantity it contains as compared with Bone Phosphate of Lime, according to the Table hereto annexed.

	Phosphoric Acid.	Bone Phos. of Lime.	
Jan. 5. Maygar,	21.33 per ct.,	equal to 47.57 per ct.,	mk'd A
10. Abensford,	26.92	" 58.25	AA
12. Havana,	25.23	" 19.03	B
16. Colecor,	17.25	" 37.59	C
" do. white,	31.76	" 68.51	Bwhite
" Broosa,	27.35	" 59.26	AA
" Mory,	22.75	" 49.29	A

3d.—AFRICAN GUANO.

	Ammonia.	Phos. Acid.	Bone Phos. Lime.	
Frisilla,	12.50 per ct.	16.45	equal to 35.53	mk'd B

Each package of all the varieties of Guano are plainly marked according to the following Table which is here republished, and purchasers or consumers can make their selections by observing the marks:

PERUVIAN GUANO.			
All Guano marked "Peruvian,"	letter A, contains Ammonia	equal to from 15	to 18 per ct.
and its elements,			
Do. do. do. marked B,		12½	to 15 "
Do. do. do. " C,		10	to 12½ "
Do. do. do. " D,		7	to 10 "

MEXICAN GUANO.			
All Guano marked "Mexican,"	letter A, contains Phosphoric	equal to from 45	to 55 per ct.
Acid,		of Bone Phosphate of Lime.	
Do. do. do. marked B,		equal to from 35	to 45 per ct.
Do. do. do. " C,		25	to 35 "

WHITE MEXICAN GUANO.			
All Guano marked "White Mexican,"	letter A, contains Phos-	equal to from 75	to 85 per ct.
phoric Acid,		of Bone Phosphate of Lime.	
Do. do. do. marked B,		equal to from 65	to 75 per ct.
Do. do. do. " C,		55	to 65 "

AFRICAN GUANO.			
All Guano marked "African,"	equal to 2 per ct., and Phos-		
letter A, will contain Ammonia	phoric Acid equal to 25 per		
and its elements,	cent and upwards, of Bone		
	Phosphate of Lime.		

Since publishing the above tables I have inspected two small cargoes of Mexican Guano which averaged about 58 per cent. of Bone Phosphate of Lime, being 3 per cent. more than the standard adopted, as will be observed by reference to the table. Being but two lots out of a large number, some of which yielded but 38 per cent., I regard them as exceptions, and rather than change the whole table marked them double AA, to indicate that the lots so marked contain Phosphoric Acid equal to more than 55 per cent. of Bone Phosphate of Lime. Unless the arrival of such lots of superior quality shall be sufficiently numerous to require the standard of Mexican to be changed, they will be marked as above AA.

WILLIAM S. REESE,
State Inspector of Guano.

febl
COW PEAS.—Orders will be received at this Office for Cow Peas. Also, **OREGON PEAS.** febl

FOR SALE VERY LOW—6 BUCK LAMES, out of Cornwell Ram and Bakewell Ewe, of pure and superior stock. Price, \$10 each. Also, a thorough bred Chester BOAR, 2½ years old, very handsomely made, \$30. Also, a very large and handsome 4 year old Bull, a cross of two pure blooded stocks—also, 3 heifers, three years old, with calf by above bull. Address
R. H. EVANS,
deed-1t Elbridge Landing.

JACKS.—For sale several Jacks, which will be warranted, sure foal getters, and will be sold very low. Apply at this office. deed-1t

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